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REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION

OF THE

NEW HOUSES OF PARLIAMENT;

WITH THE

MINUTES OF EVIDENCE,

AND APPENDIX.

Ordered, by The House of Commons, *to be Printed,*
1 *October* 1841.

Lunæ, 20° die Septembris, 1841.

Ordered, THAT a Select Committee be appointed to consider and report upon the Plan submitted by the Architect of the New Houses of Parliament, for the Ventilation and warming of the Houses of Parliament, and for rendering them Fire-proof.

Martis, 21° die Septembris, 1841.

And a Committee is nominated :—

Mr. Chancellor of the Exchequer.
Lord Stanley.
Sir John Hobhouse.
Sir James Graham.
Lord Viscount Palmerston.
Lord Francis Egerton.
Sir Richard Vyvyan.
Mr. O'Connell.
Sir Robert Harry Inglis.
Mr. Williams Wynn.
Mr. Francis Thornhill Baring.
Sir George Clerk.
Mr. Hawes.
Sir Charles Burrell.
Mr. Tufnell.
Lord Viscount Sandon.
Lord Viscount Barrington.
Sir John Guest.
Mr. Vernon Smith.
Earl of Lincoln.

Ordered, THAT the Committee have power to send for Persons, Papers and Records ; and that Five be the Quorum of the Committee.

Veneris, 1° die Octobris, 1841.

Ordered, THAT the Committee have power to report the Minutes of the Evidence taken before them to The House.

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REPORT.

THE SELECT COMMITTEE appointed to consider and report upon the Plan submitted by the Architect of the NEW HOUSES of PARLIAMENT, for the Ventilation and warming of the Houses of Parliament, and for rendering them Fire-proof;—— HAVE considered the Matters to them referred, and have taken EVIDENCE thereupon, and have agreed to the following REPORT:

THAT Mr. Barry having stated in his evidence, that in the event of the ultimate adoption of Dr. Reid's plan for ventilating the New Houses of Parliament by means of a central Tower, it would not be necessary to incur any expense during the next six months, beyond that of strengthening the foundations now in progress for the Central Saloon; and it further appearing to Your Committee, from Dr. Reid's evidence, that he is still engaged in a course of experiments upon the subject of the ventilation of the Houses of Parliament, Your Committee are of opinion, that as it is unnecessary to come to any final decision upon the matter referred to them at the present moment, it would on many grounds be advisable to allow further time for its consideration. With this view Your Committee recommend that authority should be given so to strengthen the foundations of the Central Saloon, as to admit of the erection of the Tower, if it should in the next Session of Parliament be determined to adopt that course.

1 *October* 1841.

PROCEEDINGS OF THE COMMITTEE.

Veneris, 24° *die Septembris*, 1841.

PRESENT:

Mr. Chancellor of the Exchequer.	The Earl of Lincoln.
Sir R. H. Inglis.	Lord Barrington.
Sir R. Vyvyan.	Mr. Tufnell.
Mr. Vernon Smith.	Lord Palmerston.
Lord Sandon.	

The CHANCELLOR OF THE EXCHEQUER was called to the Chair.

Dr. Reid and Mr. Barry were severally examined.

[Adjourned to Monday, 27th instant, at Three o'clock.

Lunæ, 27° *die Septembris*, 1841.

Mr. Vernon Smith.	Lord Barrington.
Mr. Hawes.	Sir R. H. Inglis.
Mr. Tufnell.	Lord Palmerston.
The Earl of Lincoln.	

Lord PALMERSTON was called to the Chair, in the absence of the Chancellor of the Exchequer.

The Committee deliberated.

[Adjourned to Thursday, at Two o'clock.

Jovis, 30° *die Septembris*, 1841.

Mr. CHANCELLOR OF THE EXCHEQUER in the Chair.

The Earl of Lincoln.	Lord Palmerston.
Mr. Tufnell.	Sir C. Burrell.
Mr. Hawes.	

Mr. Barry and Dr. Reid were severally examined.

Dr. Reid was directed by the Chairman to prepare the following Estimates:—

An Estimate of the expense of dispensing with the chimney tower, and using machinery for the expulsion of foul air.

Of confining the flues to the conveyance of air to the great chimney, leaving the chimneys of the several rooms for the conveyance of smoke, as at present arranged.

Of having the chimney tower at a distance from the building, conveying the air to it by means of a horizontal tunnel.

Of the annual expense afterward, as well as of the immediate expense of construction.

These Estimates were subsequently delivered in by Dr. Reid, and will be found in the Appendix to the Report.

[Adjourned to the next day, at Twelve o'clock.

Veneris,

Veneris, 1° *die Octobris*, 1841.

Mr. Chancellor of the Exchequer in the Chair.

Sir John Guest.	Lord Sandon.
Lord Palmerston.	Lord Lincoln.
Mr. Hawes.	Sir C. Burrell.
Sir R. Vyvyan.	

Mr. Barry and Dr. Reid were again examined.

The room was cleared. The Committee deliberated, and agreed to a Report, which the Chairman was directed to submit to The House.

LIST OF WITNESSES.

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MINUTES OF EVIDENCE

Veneris, 24° die Septembris, 1841.

MEMBERS PRESENT:

Sir H. Inglis.	Lord Viscount Palmerston.
Sir R. Vyvyan.	Lord Viscount Barrington.
The Earl of Lincoln.	Mr. Vernon Smith.
Lord Viscount Sandon.	Mr. Tufnell.

MR. CHANCELLOR OF THE EXCHEQUER IN THE CHAIR.

David Boswell Reid, Esq., M. D.; Examined.

D. B. Reid, Esq. M. D.

24 September 1841.

1. *Chairman.*] YOU have been for some time employed, have you not, in examining the building for the new Houses of Parliament, with a view to discover in what mode you could apply to them the system of ventilation which you have applied to those at present occupied?—I have.

2. Can you state briefly to the Committee what has been the result of your examination?—The general result has been this, that the atmosphere in the immediate vicinity is often exceedingly impure, and that it would be desirable, in the first place, to take in air from a very considerable altitude, more particularly by the two towers, the clock tower and the Victoria tower, which form parts of the new buildings; the next point that occurred to me was, that the immense area in the basement might be made a very important reservoir for cool air during the summer. The other evening we had to give no less than from 70,000 to 80,000 cubic feet of air per minute before honourable Members were satisfied with the quantity, and I believe that quantity was not considered sufficient by some of those who were attending the Houses; but if we had such a magnificent reservoir of cool air during the hot months of the summer, it might be applied with very great advantage in lowering the temperature of the hot atmosphere. In the next place, it will be obvious that it would be an object of very great importance, connected with the structure of the building in the various courts and passages, that there should be but one egress for foul air, for with so many different apartments, all closely bordering upon each other, if there were numerous outlets for the egress of air, these might discharge themselves into the apertures by which air is introduced; hence I was led to propose that some central shaft should be erected. The next point that occurred to me was this, that there ought to be two openings for the ingress of air, so that in the event of the currents of air carrying the foul air in any particular direction, the other ingress might, under those circumstances, be employed, and thus at all times the ingress of a pure atmosphere be secured. Again, it occurred to me, that it would be an object of very great consequence, and would save very considerable expense hereafter, were the air generally warmed before it was sent to the individual apartments: I have no wish to suggest that in committee-rooms and in the apartments generally, exclusive of the two Houses proper, fire-places should be done away with; on the contrary, I prefer the appearance of a cheerful fire-place; but, at the same time, if the atmosphere generally could be so far warmed as to partake of the character of a mild climate before it is introduced, instead of being thrown in in cool

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currents, it would be a very great object, and would probably save considerable expense.

3. Has the estimate which has been submitted to the Committee been formed with reference to the plan which you have now stated, of having two ingresses for the external air drawn from a considerable height, of having the air warmed so that it may be diffused generally throughout the building, and of having one high tower for the exit of foul air?—It has.

4. Is it possible, consistently with your system of ventilation, to dispense with the high tower for the exit of foul air?—I consider it perfectly possible, but by no means desirable, more especially in reference to the economy of annual attendance. There might be some saving by dispensing with a central discharge, but I have the most firm conviction that it must be attended with an increased annual expenditure.

5. What is the use of the high tower as at present proposed in your system of ventilation?—It is the moving power upon which the ingress and egress of air depend. If we take into consideration the whole movement of air from the first moment that it is received, till it is finally expelled at the top of the shaft, we may compare it to air moving in a tube of which one extremity is the point where the air is received from the external atmosphere; in its progress it expands into various chambers, where it is modified according to circumstances; then it passes into the House, and afterwards it is received in the shaft, where, from the rarefaction induced by the fire, it is ultimately expelled by virtue of the pressure of the atmosphere.

6. Will you explain in what course you would act, supposing it were judged advisable not to have this high chimney in the building?—In that case, I should confine myself entirely to the use of an engine, and have individual apertures for the discharge of air from the Houses proper, and also from the committee-rooms and other apartments, congregating those different apertures, however, into as many assemblages as circumstances might permit.

7. You would then effect by manual labour that circulation of air which, by the use of the high chimney, the fire in that chimney occasions?—Exactly so, or by an engine, and by taking advantage, so far as circumstances would permit, of the natural impulse of the air as induced by currents of wind, and the natural tendency of a hot and vitiated atmosphere to escape. I would beg to observe, that in ventilation generally, I have always considered it an object to derive the plenum movement, where it was possible, from the natural current of air, so that that current itself should be the power by which the air was forced inwards, and that the rarefaction of the air, when it meets with heat in various apartments, should also be the power by which it was forced outwards; so that if we imagine an apartment with two shafts, one turned to the wind, and leading air inwards, and another turned from the wind, and carrying off the air after it is once used, we have ventilation in its simplest form; but if apartments are to be crowded, so that a vast movement is required within a certain space, when there may be no external atmosphere moving with force, and in a climate where large apertures in the roofs of buildings are not considered desirable, then it is necessary to have a mechanical power to make up for the deficiency.

8. Have you made any estimate of what would be the difference in the immediate expense if you were to dispense with the large tower, and were to adopt the other mode of ventilation which you state to be practicable, though, in your view, not so expedient?—I should not be able to state that very precisely without having more details connected with the plans of the buildings in respect to the different portions that might be made of use; but I should consider, having attended minutely to the question, so far as I could under the circumstances, that an expense of probably 3,000*l.* to 4,000*l.* would be amply sufficient to make up the difference; that is, supposing the shaft to be dispensed with, an expense of from 3,000*l.* to 4,000*l.* would be sufficient to make an equivalent for it.

9. Mr. *Vernon Smith.*] That would be instead of 20,000*l.*, the expense of the shaft?—Yes.

10. It would then be a saving of 17,000*l.*?—Minus a deduction for the expense of separate discharges; but I may be permitted to say, that I do not consider that a desirable mode; my firm opinion is, that a shaft is the desirable mode. Perhaps I might be allowed upon this point to exhibit to the Committee some rude sketches which I have made—[*producing the same*]: if we imagine this to represent a section across the two Houses, including the central hall

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hall, it will be perceived that, according to Mr. Barry's arrangement, there is a great central hall, and there are also numerous courts necessarily connected with that central hall; now the tendency of all foul air once heated (and in 99 cases out of 100 vitiated air is heated) is to ascend; if then it be possible to arrange one central movement above that hall throughout the whole year continually, whether the Houses are sitting or not, there can be commanded at all times and seasons a discharge of foul air from every room at no expense, without the use of an engine, and without any mechanical power whatsoever; but if you have numerous minor flues, those will not only be a pecuniary expense, but at the same time those minor flues will have less power individually and collectively than this large one will have, because it is in fact the same principle as in the fable of the bundle of rods, you have the heated aggregate ascending movement from the whole of the building. Now, in many buildings there is constantly upon the furniture, and connected with the walls, and with the deposit of moisture, an extremely offensive and tainted smell; but if this shaft were erected here, from the natural tendency of air to ascend throughout the whole series of apartments by the different communications proposed, we should have this power perpetually in action without machinery and without manual labour, and probably without any expense. I may be permitted to state that the shaft which has ventilated the Houses of Parliament during the last Session has been examined for the last four years, and we have never once had a returning current; the consequence, it will be obvious, of a large shaft being placed here is, that we shall always have an ascending current, even though no fire may be introduced into it; and if the shaft were to be carried up a certain height over Mr. Barry's central hall, a power might be commanded which would ventilate the whole of the apartments.

11. Sir *R. H. Inglis.*] From what elevation do you propose to take the pure air for the purpose of ventilation?—From the greatest accessible altitude, that is, from an altitude of about 200 feet at the Victoria and the clock towers; Mr. Barry can give more minute evidence upon that point. The Committee will permit me to add, that there is another important feature connected with the proposal for a central shaft, which I have not yet adverted to; that feature is this: in all buildings where fires are used, there is perhaps nothing more annoying than the return of smoke. During the last winter, on various occasions, I was sent for to different apartments of the Houses of Parliament, on one occasion to the room of the Speaker's secretary, where the whole of the tables, furniture and every thing was covered with soot; now, one of the principal features in the proposed shaft, independently of ventilation, is this, that if it should be adopted it will be possible to carry every chimney flue connected with every one of the 400 rooms that may be constructed into this central shaft, so that at no time will there be any possibility of a return of smoke. Another improvement would also necessarily follow the adoption of this central shaft, which is this, that we should then be able to use fuel which would produce no smoke; if common or ordinary fuel were employed, as there are necessarily so many different courts, it will be obvious that there must be great precipitations of blacks from time to time; I may mention, that very recently there were no less than 2,000 pieces of soot counted on five of these drawings in the room adjoining the House of Lords; and, speaking generally, I have noticed on numerous occasions 400 separate pieces of soot deposited on one square foot of the canvas which now filters the air that enters the House of Commons; were then the central shaft adopted, not only would it be a perpetual power, which could be increased indefinitely by the action of heat or of mechanical power below, but it would enable all the chimneys to be commanded, and at the same time a fuel to be used which would produce no smoke; so that there would be no sweeping required in those apartments; at present there is a cost of at least 100 *l.* a year incurred in mere sweeping, independently of the misery to which the boys are subjected; this will therefore, I trust, be taken into consideration; the plan suggested is not founded on theory alone, for during eight years I have had 22 chimneys myself which have been used with nothing but coke; no smoking fuel indeed was ever employed in any of them during that period, except where we were giving illustrations in the lecture-room with smoking fuel.

12. Mr. *Vernon Smith.*] You have stated the advantages of the high tower, will you now be so good as to state what would be the progress of the ventilation in the absence of that tower, so that the Committee may be enabled to estimate the comparative advantages of the two systems?—In the absence of that tower, all arrangements might be considered precisely in the same point of view, except the

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mere discharge. The difference, however, would be this, that we should never then be able to calculate with certainty upon the influx of a sufficient quantity of air without mechanical power or manual labour. The great advantage of this high tower is, that once constructed it remains for ever; and, so long as it shall stand, it is the moving power in itself, ready to be applied to every individual apartment equally, not only upon those to be ventilated, but acting always upon the chimneys, and drawing the air from the drains, so that from every drain and every closet throughout the building, instead of air coming out, as it does so frequently, air would descend into those drains and closets.

13. *Chairman.*] Is it necessary for your purpose that the tower should be connected with the building, or might it not be possible to erect a plain ordinary tower, such as you have now for the ventilation of the House of Commons, at some distance from the building, by which the ventilating process might be effected?—There would be no difficulty whatever in that; but it might be a question, if it was taken to a distance, what the expense of tunnelling and flues would be. There is also a second point connected with it, namely, that the facility of workmanship and of attendance afterwards would be greater, and the expense connected with the general management would be much less, and the arrangement more simple, were this central discharge adopted. It will be perceived, that the tower, as now proposed, is in the centre of the whole building, to which every thing radiates, and its power is thereby increased; whereas, if we suppose that the tower were placed here (*pointing to the plans*), we should have to carry all the flues, not only from this corner to the other, but nearly 500 feet further, and the difficulties connected with the mode in which the rooms are necessarily distributed, so as to have open galleries and freedom of communication, would be considerable.

14. Does the height of the tower depend upon the extent of the building which is to be ventilated?—I should consider that the height of the tower would depend principally upon the number of persons to be provided for at a given time, and the space from which air is drawn.

15. Would it make any difference, therefore, whether the ventilation by means of your system was confined to the Houses of Parliament, and the halls immediately adjoining, or whether it was extended, as you propose, through all the committee-rooms and libraries of the Houses?—It would make no difference in principle, but there would be a very great difference in the size of the discharge.

16. Would it make any difference in the height of the tower?—I can scarcely answer that question precisely without making some calculation in detail; but it would be proportionably less in every way.

17. And the expense also would be considerably less?—Considerably less, were it confined to the two Houses and the central hall. The air left ought also to be taken into consideration. There might be such an effusion of air from the different kitchens and places around, that those might supply our fresh air apertures. Upon numerous occasions I have been called into the lobbies and other places, in order to see if any thing could be done with respect to the state of the atmosphere, for the different kitchens were playing into the different apartments; and I may mention, that on one occasion we found the atmosphere of the House of Lords, after it had been exhausted, passing into the House of Commons, when there was an easterly wind; and when the wind was westerly, the vitiated atmosphere of the House of Commons passed into the House of Lords. All those evils would be apt to arise here were one uniform system not adopted, so as to control the whole.

18. Earl of *Lincoln.*] The estimate for the expense of the ventilating tower is 20,000 *l.*, and the expense of the separate flues, I understand you to say, would not exceed from 3,000 *l.* to 4,000 *l.*?—That is the expense of machinery.

19. You also stated that there would be little or no annual expense attending the ventilating tower, but that there would be considerable annual expense attending the separate flues; have you formed any estimate of the annual expense which those separate flues would entail?—I have had no opportunity of making up any detailed estimate upon that point. I am not able, at the moment, to give any precise answer as to the expense that might be incurred. It is a question that might be answered, after going into some detail; at present I should not be able to state it.

20. Sir *R. H. Inglis.*] Your answer, in respect to the expense of 3,000 *l.* or 4,000 *l.* has had reference exclusively to the cost of machinery, but has not comprehended

prehended any charge either for attendance on the one hand, or for the flues, and the general system of ventilation on the other?—That is the case.

21. Are you able to state to the Committee what would be the additional expense for the flues throughout the whole building which might become necessary if the central tower were not adopted for the purpose of ventilation, as suggested in your previous examination?—It would be impossible for me to give an answer to that without consulting with Mr. Barry as to the different communications, and as to the state of the arrangements.

22. Your answer had reference solely to that point which belongs to your office; namely, the cost of the machinery for giving effect to your own particular process?—It had.

23. The expense of the mechanical and architectural parts connected with the flues must be estimated by Mr. Barry, not by yourself?—The architectural arrangements must be estimated by Mr. Barry.

24. Mr. *Tufnell.*] You stated that if the high tower were built there would be a great saving in the expense of fuel, and that fuel would be used which did not generate soot?—Yes.

25. Do you mean that coke only is to be burnt in the different rooms connected with the Houses of Parliament?—Perhaps the word "coke" does not express what I mean to convey, because there are very considerable varieties of coke; I mean, however, a material that would give no palpable smoke; it might give a light lambent flame, which sometimes coke does not; but I mean a material that would give no soot, and which would allow of no accumulation in the chimneys.

26. And which would ensure not giving any offensive smell?—Most perfectly; if there can be any doubt entertained upon that point, perhaps the Committee will permit me to refer to the experimental room, in which, under the directions of the Office of Woods, I have been allowed to make some arrangements for showing the proposed new fire-places.

27. Sir *R. Vyvyan.*] Your motive power is, of course, the tendency of rarified air to ascend?—It is the motive power, but not the sole motive power; I have always contemplated in the new Houses the use of a certain mechanical power in addition, proportional to the crowded state of attendance at the Houses.

28. Viscount *Barrington.*] Do you make use of any additional power at present in the House of Commons?—Not in the House of Commons, but for the House of Lords we do; I was not at all aware until lately, when I came to reside in London, of the great number of individuals who are often collected upon a certain space in the Houses; I have noticed again and again, at the bar of the House of Lords, and sometimes at the bar of the House of Commons, one man upon every foot, and being very much struck with the density with which they were congregated upon a certain space, I made numerous experiments in prisons and other places to find what was the actual number that could stand upon a given space; and I found in the prisons in Perth, taking the men who were labouring in the building which is now constructing there just as they were met with, that 79 stood upon 81 feet, and 90 upon 93 feet; I afterwards tried experiments in schools, and found that two boys generally, taking them between the ages of six and fourteen, stood upon one foot; and I have thought it desirable to recommend that I should be permitted to use a fan to force in air under such circumstances. Perhaps I ought to add, generally, that in all cases where individuals are not congregated so densely together, I prefer much the power induced by heat, that being the natural process that is generally observed throughout the globe, not only in the phenomena of nature, but also in operations of art, for inducing ventilation; but in those cases where there are long passages and variable numbers crowded with extreme varieties of density in different places, I think it essential to have a mechanical power to assist the ventilation.

29. Viscount *Palmerston.*] You stated, as one of the advantages of the tower, that if it were constructed, coke could be used in the various fire-places, and that it could not be used if the tower were not built; will you explain why coke could be used with the tower, but could not be used without the tower?—Perhaps I ought to have stated a little more explicitly what I have adverted to; I see no absolute difficulty in using coal, but then there would be such a deposition of soot in the long and intricate flues, that it would be a very great objection to the use of coal; and, secondly, where coke is employed, and where the fire is allowed to decline, there is often a danger of carbonic acid gas escaping, which does not so often happen when ordinary fuel is used; but if we have a tower which is always

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drawing with a certain force, we shall at all times command a movement of air at the fire-places, which will operate even upon the most trifling and smallest cinder fire.

30. Coke is cheaper than coal, is it not?—I should think it could be arranged to work more economically than the coal at present used, but the price varies according to the quality.

31. Mr. *Tufnell.*] Would it not be impossible to use coal in the intricate flues under the tower?—There is no impossibility in the use of coal, but it would be objectionable from two causes: in the first place, climbing boys would be necessary after the Act has been passed to put a stop to this; so that it would require a new construction of flues, and present many difficulties in making a proper adjustment; in the second place, it would not be considered desirable to have a tower constructed as this must be in connexion with the building of the new Houses, from which any smoke might possibly emanate; thirdly, there would be a very great tendency to the accumulation of soot and blacks upon a vast variety of the complicated carving that will adorn this building, which will be entirely done away with if that kind of fire-place be employed to which I have now adverted.

32. Viscount *Barrington.*] Your idea is, that we might dispense with fires altogether in the various committee-rooms?—I should hope that, practically, they will be dispensed with, except so far as it may be desirable to have a cheerful appearance in the rooms, and in so far as any honourable Member who comes in extremely cold may find it convenient to resort to a room that is so provided.

33. *Chairman.*] Under your proposed arrangement there would be but one chimney for the whole building, and that would be a high tower necessary for the purpose of ventilation?—Yes.

34. That necessarily entails the use of coke or fuel that does not produce smoke in every room within the building?—I should presume that it did so; it does not absolutely do so.

35. It does so unless you resort to climbing boys for the purpose of cleaning the chimney, and have to contend with the other obstacles which you have stated?—Certainly.

36. Are the chimneys in the new building at present constructed with a view to a central chimney, or with a view to individual chimneys in different rooms?—So far as operations have been conducted latterly, it has been entirely with a view to a central chimney; but Mr. Barry can inform the Committee more specifically upon that point.

37. Mr. *Tufnell.*] Have you any plan of the flues which you propose centralizing in the high tower?—I have in the general arrangement; this arrangement [*producing a plan*] shows the general scheme by which they would be all conducted.

38. Viscount *Palmerston.*] Do not you think that it would be considered an inconvenience by the persons who inhabited this great building if they were all precluded from using coals for the fires in their living-rooms?—I have no doubt that it would be considered very objectionable by many; but I cannot consider for a moment that it would be considered objectionable by those who would look at the nature of the fires that might be made with material that does not smoke. The same cheerfulness of fire, independently of smoke, could be produced; and if they had the absolute power of warming themselves with more economy than previously, and with more certainty, I do not see what possible objection there could be in reality, though I feel perfectly satisfied that, till the subject is investigated, and the mode of working such fires looked at, in the manner that can be shown in the experimental room at any time, when any of the honourable Members may choose to visit it, it will be considered objectionable.

39. Does a coke fire require more peculiar attention than a coal fire?—According to the arrangement that would be introduced here, there would be little or no management required, far less than with any ordinary coal fire; one attendance in the day would be amply sufficient.

40. *Chairman.*] If you determined to adopt the plan of constantly using coke, would it be practicable, supposing that was found ineffectual, afterwards to introduce coal into any of the rooms?—Perfectly practicable.

41. Would you not have to make a totally different arrangement of the chimneys?—There would be a modification required in the flues as they passed to the roof.

42. Viscount *Palmerston.*] Would it not be easy to have some arrangement in the great shaft, which, by making the smoke pass through a fire, would consume it before it reached the outer air?—There would be no absolute difficulty in doing that;

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that; but I should consider that there would be considerable risk that at times the smoke would appear.

43. Might you not have a furnace at the bottom of the shaft, through which every thing that came from the different rooms should pass, and which would entirely consume all the smoke?—I have no doubt of the practicability of it; I should question the economy.

44. *Chairman.*] Would it materially affect your plan for the ventilation of the Houses if you left every room, as it is at present intended, to have its coal fire and its separate chimney?—By no means; the ventilation could be effected perfectly with a mechanical power; I consider that the means of extracting air or propelling air are secondary matters compared with the quantity of supply, the quality of that supply, and its diffusion, so as to reach the whole building without coming in the shape of an offensive current; there is a perfect power at present of managing the ventilation by the arrangement that would be introduced, and coal fires might be used in ordinary chimneys; but I should consider it an exceedingly defective plan as compared with an arrangement that centralizes and brings the whole as it were into one general sweep; I may state that, in reality, it is much the same in respect to buildings as the circulation of the blood is to the whole body; that if you look to these as so many different parts, one may be compared to the arm, another to the head, another to the leg, and so on; but you have but one moving power for the whole, and if you have one ingress for the air with another which is to be used under particular circumstances, and one egress, you will have a simplicity in the permanent arrangement and in the attendance, which will more than repay any expenditure at the moment; at the same time, with respect to the specific question, there can be no difficulty whatever in ventilating the entire series of apartments with the ordinary fuel, but then you would have a less pure external atmosphere from which you would draw the air to supply the Houses.

45. The difference in the purity of the external atmosphere would arise from its being mixed with the smoke of the chimneys of the different rooms connected with the Houses of Parliament?—It would.

46. But, considering that the Houses are surrounded by a number of buildings that are constantly emitting smoke, do you think that the additional chimneys of the rooms connected with the Houses of Parliament would make any material difference in the purity of the atmosphere?—If it happened that the wind blew in any particular direction, foul air would accumulate at one spot; but if the two apertures for the ingress of air are conceded, it would not materially affect the quality of the air drawn in.

47. Viscount *Sandon.*] The air is all strained before it passes into the House; it is passed through a canvas, is it not?—Yes.

48. So that it would deposit all its more solid particles before it reaches any part of the House?—It would; but, independently of the solid particles, there are innumerable minute particles and impurities which you entirely escape by going to a certain altitude. Perhaps the Committee will allow me to state, that for the first twelve months after I came to London, I felt extremely unwell, so unwell that at one time I was quite uncertain what step to take; and I found afterwards my illness was connected principally with my being occupied in the day on the basement where the new Houses of Parliament are being erected, and passing the evening in Duke-street, where we are subject to very inferior atmosphere. Since I began to examine more particularly the state of the atmosphere there, I have changed my residence, and I have not since been engaged so much where I would be exposed to that atmosphere, and I have found that my health has been entirely recruited. I also beg to mention this fact, that there are certain apartments within 10 or 20 feet of the ground in different parts of this locality where meat does not keep one day, and if you were to elevate it to the height of 30 or 40 feet, it would keep two or three days.

49. Would the smoke from the chimneys of the rooms connected with the Houses of Parliament, if they were emitting smoke, throw other impurity into the atmosphere than that which would be strained and kept out by your process?—There would be no difficulty in keeping out the impurities from the chimneys if the two apertures be given for the ingress of air, one when the wind is in one direction, and another when the wind is in another direction.

50. *Chairman.*] Will you allow me to recapitulate what I understand to be your view: I understand your view to be, that each of the great towers, the

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clock tower and the Victoria tower, should be an aperture for the admission of air; that the air so admitted should circulate through the different parts of the building and be carried off by the new tower that you propose to erect in the centre; that, subsidiary to that, you suggested the advantage of having all the flues of the two carried into the new tower; that the new tower, therefore, should be the mode by which every flue should send its smoke into the outer air; but in order to obviate the inconvenience of soot, you think every room in the building should use coke, or fuel that does not emit smoke: is that correct?—It is; I ought merely to add, that I trust I shall be allowed the opportunity of showing some of my fire-places when they shall have been constructed.

51. They are not constructed yet?—There has been no grant allowed for the construction, but one or two minor arrangements have been made.

52. Mr. *Vernon Smith.*] Supposing the new tower was not erected, should you use the two towers as apertures for the admission of fresh air?—I should strongly recommend that, because all the difficulties as regards foul air and sooty particles from the Houses would be got rid of in that mode.

53. Viscount *Barrington.*] Where would you make the apertures for the admission of air in those two towers; at the bottom or the top?—At the greatest possible altitude; the top.

54. Mr. *Vernon Smith.*] You have not attended to the question of the comparative expense of building this tower and doing without it; in conjunction with Mr. Barry, can you lay before the Committee an estimate of the comparative expense?—We should be able to do that after a short consideration; I have looked principally to the annual expenditure afterwards, and also to having a perpetual power in action at no expense.

55. But, taking into consideration the present expenditure, and the probable annual expenditure, the Committee would like to have an estimate of the expense of doing without the tower, as well as the estimate they have now of building the tower?—I will prepare such an estimate.

56. Sir *R. Vyvyan.*] If there were no central tower, what plan would you adopt?—If there were no central shaft for the discharge of foul air, I should obtain the plenum impulse by means of more powerful machinery than is at present contemplated.

57. What in that case would be the mode of discharge of the foul air?—The discharge would be individually from the different apartments, congregating as many of those into one discharge as the circumstances of the building would permit; for instance, it would be desirable to have one discharge for the House of Peers, another for the House of Commons, and another for the range of committee-rooms; but that would depend in a great measure upon the arrangements which might be most conveniently intertwined with the structure of the building.

58. Earl of *Lincoln.*] You would contemplate adopting a mode similar to the present mode of conducting the flues into one chimney?—Yes.

59. Sir *R. Vyvyan.*] Have you ever considered the possibility of having one central point to which all the different tunnels should converge, and then of having one large horizontal tunnel, which should be carried beyond the building to some distance and terminated in a high chimney, as is the case more particularly in the counties where they have large steam-engines in the mines?—I have turned my attention particularly to that, more especially as there is a building now constructing at Liverpool, where the air from a large hall, intended to contain 4,000 people, from two courts, from a large concert room, and from a great number of minor apartments, and from all the chimneys, is to be conveyed in the manner to which you have now adverted.

60. What has been the result?—It is only in construction at present.

61. Have you considered it with reference to the building for the new Houses?—I have; my difficulty in respect to it, and my reason for not proposing it, was this, that it appeared to me that from the situation of the building for the new Houses, and from the manner in which the spaces around it are occupied, there would be a greater expense incurred in the tunnelling that would be necessary for such a purpose than in the construction of a central tower.

62. Supposing you carried it but 100 or 200 feet from the building on the bank of the river, of course, in the building itself, you might easily make arrangements to have the tunnelling in the walls of the building, you would then have the opportunity of tunnelling beyond the Houses to the chimney; and suppose that tunnel were

were to be 200 feet long from the present building, and were to terminate in a tall chimney, would there be any expense in that case?—I have considered that case; but it appeared to me, that the expense would be beyond what would be necessary for a tower; but on that I can only give a correct opinion after knowing what spaces and what modifications of the plans would be admitted. I may state, that there has been very considerable difficulty in getting the areas required for the discharge of air from the different apartments, so as to enable them all to come to the central movement. I have had, of course, to make all my arrangements subordinate to the leading construction already agreed on. If certain spaces were given for the purpose adverted to, there could be no difficulty whatever in its execution; but so far as I have seen, I have always considered that there would be many objections to it, from its interfering with the structure. That difficulty has already met me at every point in asking for any particular flue.

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63. Are you aware that it is the practice in all the mines in England to have the steam-engine at a considerable distance from the mine itself?—I am, and I believe I have proposed in different places the same thing for suites of building, for squares, or for a street, or even for a city, if they were beginning to found one.

64. A better draft is obtained in that case?—Far better; and I may state, that it would not only act in what I should consider a very desirable manner, but it would give a new series of apartments in the roofs of most buildings, and afford the best security from fire.

65. Viscount *Palmerston.*] It would involve a great deal more sweeping, would it not?—I have always had a notion that the other process I have adverted to, namely, the use of fuel to give no smoke, might be adopted.

66. Sir *R. Vyvyan.*] In this case, there would be but one large tunnel, which might be swept by a man walking through it?—There will be only large tunnels here; so far as the flues are small and narrow, they will be more easily swept, because, instead of throwing innumerable flues into a tortuous course, they will be thrown straight upwards, and then carried horizontally in the larger tunnel, till they reach the central shaft.

67. Suppose you had no mechanical means of getting a motive power for your current of air, of course the taller the chimney the greater would be your motive power?—It would; but the Committee will permit me to state, that after the vast number of persons I have seen congregated in a given space, both in the House of Peers and in the House of Commons, and the absolute impossibility almost of maintaining double doors shut, so that they shall never be both open at the same time, I think it would not be desirable to waive entirely the use of a mechanical power, because, with that mechanical power, you can get rid of drafts which you cannot get rid of otherwise.

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68. *Chairman.*] YOU have been in communication with Dr. Reid as to his views for the ventilation of the new Houses?—I have.

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69. Your estimate is framed with a view to carry the whole extent of Dr. Reid's views into effect?—It is.

70. Does it contemplate the conveyance of all the chimneys into the main shaft that convey smoke, as well as the flues that convey the air?—Yes, it does.

71. With respect to the fire-proofing of the building, was any provision made for that in the original arrangements for the building?—Yes, a very considerable provision was made for rendering the building fire-proof to a certain extent; that is, the whole of the public department of the building is calculated to be rendered perfectly fire-proof; but the fire-proof principle was not carried throughout all the residences; the plan which is now in contemplation is to carry the fire-proof principle throughout the entire building.

72. What did the original plan contemplate as residences?—A residence for the Speaker, for the Serjeant-at-Arms, for Black Rod, for the Librarian of the House of Lords, for the Housekeepers of the Houses of Lords and Commons, and some other residences for subordinate officers.

73. It did not include the rooms connected with the committee-rooms and kitchens of the House?—It did contemplate fire-proofing those rooms which are in the department of the housekeeper.

74. Can you assign any reason why the fire-proofing was so confined in the original building, considering that the whole is in one mass?—I consider that,

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according to the ordinary construction of buildings, and the ordinary use of fires in buildings, it was carried to a sufficient extent; but with the view of carrying the flues from all the fire-places throughout the building into one shaft, it is necessary to have a complete fire-proof floor under the roof, which under other circumstances would not be necessary.

75. If, then, the individual chimneys of the different residences were carried in the ordinary way, without being connected with the tower in the centre, you would require no additional expense for the fire-proofing of the building?—Only so far as regards rendering it fire-proof throughout, and perhaps it is desirable that it should be made so.

76. The estimate you have made comprises two heads, the rendering fire-proof residences, which before it was not thought necessary to make fire-proof, and making additional provision in the public department of the building, in consequence of the idea of Dr. Reid that all the chimneys should be conducted to the large chimney in the centre?—Yes.

77. If, therefore, we were to determine to leave the chimneys as originally arranged, it would only be necessary to render the residences fire-proof which are now not fire-proof?—Yes.

78. What additional expense would in that case be required?—Twenty thousand six hundred and eighty pounds, which is an item in my abstract, being the expense of a fire-proof floor under the whole of the various roofs of the building.

79. Supposing, then, that Dr. Reid's plan of ventilation generally was applied, and that we did not adopt Dr. Reid's plan of having all the chimneys connected with the great tower, there would be a saving of 20,680 *l.* by that alteration?—Certainly.

80. And the public portions of the building would be perfectly secure from fire, as it is at present?—Yes, I conceive that it would be secure, except that it might be necessary to take some further precautions as regards the roof of the public department of the building; in the original plan and estimate a wooden roof was contemplated; it was not thought necessary to carry the fire-proof principle to the roof, so as to make that incombustible.

81. If a fire originates in any one of the rooms of the public portions of the building, are the rooms so fire-proof as to prevent its communicating with the roof?—I should say that no communication would be likely to take place with the roof.

82. No additional danger, then, would arise from leaving the roof as it is at present arranged, in consequence of adopting the modified plan of Dr. Reid, and only having air-flues through the chimneys?—No, I imagine there would be but little risk.

83. Do you wish to make an amendment in the abstract of the estimate which has been printed?—I do, as it has been printed imperfectly.

84. Will you be good enough to deliver it in?—This is the correct form of the abstract of my estimate.

[*The same was delivered in and read, as follows:*]

NEW HOUSES OF PARLIAMENT.

ABSTRACT of ESTIMATE for Warming, Ventilating, preventing Smoke and Down-draughts from the Chimneys, and in part rendering the Building Fire-proof, as proposed by Dr. Reid.

	£.
New ventilating tower over octagon hall - - - - - - -	20,000
Fire-proof floor under the whole of the various roofs of the buildings -	20,680
Air and chimney-flues in the walls under all the floors and roofs, vaulting of the basement story, and various alterations of the building - -	12,320
Apparatus - - - - - - - - - - - - about	12,000
£.	65,000
For rendering the building entirely fire-proof, add for a brick floor on iron beams, between the principal floor of the residences and the story above, and for various other precautionary works - - - - -	21,000
TOTAL - - - £.	86,000

(Mr. *Barry.*) I would also take the liberty of putting in this statement.

[*The same was read, as follows:*]

Estimate

	£.	s.	d.
Estimated cost of the central tower	20,680	–	–
If dispensed with, deduct for the cost of additional flues and other necessary arrangements £. 10,500 – –			
Also deduct for cost of machinery 4,000 – –			
	14,500	–	–
Saving of expense £.	6,180	–	–

as to outlay: but this saving will be further reduced by the cost of additional attendance which will be necessary if the tower is not adopted.

85. It appears from Lord Duncannon's letter that there has been a saving in the construction of the building, in the contracts that have been taken, nearly to the amount which your new estimate proposes to expend?—I am not aware that such is the case.

86. Lord Duncannon says, "From the prices at which contracts have been taken for the works already in progress, there can be no doubt, with care and attention, that a considerable saving will take place on the original estimate that was sanctioned by the Committee of the two Houses"?—I am not prepared to corroborate or invalidate that observation; I was not aware of the existence of the letter in question.

87. Sir *R. H. Inglis.*] Architecturally, would you or would you not prefer the adoption of the tower suggested by Dr. Reid?—I have no hesitation in saying, that I think the tower would be an important feature in the building, and would improve materially its general effect.

88. In the plan which you have delivered in to the Committee this day, the Committee observe that you include the expense of the proposed tower, adapted as that tower is for Dr. Reid's system of ventilation, with a very high spire; is that spire essential, in your view, to the perfecting the system of ventilation, or do you regard it as architecturally the most picturesque termination of that tower?—I think, as regards ventilation, it would tend to carry out more fully the principle which Dr. Reid has in view, by the increased altitude of apertures that may be made in it; but my object in putting it in that form was to make the central tower differ as much as possible in outline from the two other towers, by which a more picturesque effect will be produced.

89. Will you point out to the Committee at what point in the spire the system of Dr. Reid's ventilation is to terminate?—It might be extended to the very summit of the spire. There would be no difficulty in making apertures up to the very summit.

90. At what elevation above the surface of the river, at high water, would it be?—The elevation would be 250 feet above Trinity high-water mark.

91. Earl of *Lincoln.*] Dr. Reid stated, that if the central tower was dispensed with, which is to cost 20,000*l.*, separate flues might be made to answer the same purpose, the machinery for which would cost about 4,000*l.*; can you state what additional expense, beyond machinery, would be incurred by the construction of those flues?—Yes; I think I am enabled to state that, upon a system which was once thought of by Dr. Reid, of making the Victoria tower a discharge shaft as well as an ingress shaft; the expense of additional flues, and other necessary arrangements, would be 10,500*l.*, to which must be added the 4,000*l.* for the cost of additional machinery, making together 14,500*l.*; that sum would be deducted from the 20,680*l.*, leaving the net saving of expense 6,180*l.* as to outlay; but this saving would be further reduced by the cost of additional attendance which would be necessary.

92. Sir *R. H. Inglis.*] The Committee perceive that the aggregate estimate for the ventilating tower and for air, and chimney flues in the walls, and for apparatus, is 44,320*l.*; does not the expenditure, under the item "apparatus," of 12,000*l.*, come in part at least into your views?—No, it does not.

93. Is that item quite distinct, whether the tower be erected, or whether the subordinate plan recommended by Dr. Reid be adopted?—I should conceive so; but Dr. Reid will be able to answer that question better than myself.

94. (To Dr. *Reid.*) Does the item which is called "apparatus, 12,000*l.*," in the letter from Lord Duncannon to the late Chancellor of the Exchequer, comprehend articles which must be introduced, whether the high tower be adopted, or whether subordinate flues be adopted?—It does; but perhaps the Committee will allow

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me to state, that I did not mean to say that 4,000*l.* would be to be added to the cost of machinery if the Victoria tower were substituted for the central tower.

95. (To Mr. *Barry.*) Having heard Dr. Reid's answer, and re-considering your own, do you state to the Committee that the whole difference of expense, whether Dr. Reid's tower be adopted or the secondary flues, will be only a sum of 6,180*l.*, and that that difference is to be counterbalanced by the annual expenditure which may be required for manual labour and attendance?—According to the explanation given by Dr. Reid, the amount of saving will be increased by 4,000*l.*, making 10,180*l.*

96. Earl of *Lincoln.*] But that is, according to Dr. Reid's explanation, only if you substitute the Victoria tower instead of the central tower, not if you substitute a number of individual flues for the one great flue?—No, I am speaking with regard to the proposal which was once made of making the Victoria tower a discharge as well as an inlet shaft.

97. Mr. *Vernon Smith.*] Does the tall spire in the tower in your plan constitute any large portion of the expense of 20,000*l.* in the estimate?—No, I should say not.

98. Can you state what proportion?—I am not prepared to state the amount, but certainly not a considerable portion of it; the appearance of this tower, not only from the river, but from a number of other points, will in my opinion improve very materially the general effect of the building.

99. Sir *R. H. Inglis.*] The elevation of the tower will improve the general appearance of the line of building, and will not interfere in any degree with the internal arrangement and accommodation which you have provided for the two Houses?—It will not in the least interfere with the internal accommodation, or the lighting, or be productive of any inconvenience that I am aware of.

100. Earl of *Lincoln.*] The total of this estimate is 86,000*l.*; from the explanation which you gave to the Chairman, that 20,000*l.* would be requisite for fire-proofing in various parts of the building, the Committee may conclude that 66,000*l.* is the proportion of the estimate which is rendered requisite by the proposal of Dr. Reid?—Yes, that is the entire expense of adopting Dr. Reid's system of ventilating and warming the new building.

101. Are you of opinion, that if the suggestion of Dr. Reid for carrying the flues from the private buildings into the great tower was not adopted, that estimate of 20,680*l.* could be dispensed with with perfect security and safety to the rest of the building?—I think it might be dispensed with, but I should not recommend it; I think it would be desirable that a further expense should be incurred in rendering the residences more perfectly fire-proof than was originally contemplated.

102. The 20,680*l.* is not for fire-proofing the residences, but those portions of the building which would be rendered insecure by carrying the flues to the tower?—Yes, that is a part of Dr. Reid's plan that could not be dispensed with, if the plan is carried into effect of drawing the air from the chimneys into the central shaft.

103. If that were disposed of, could you dispense with that item with safety?—No, I should not say with *perfect* safety.

104. Sir *R. H. Inglis.*] When do you think that the tower, if it be erected, will be completed, and the system of ventilation applied to the new chambers for the two Houses?—That is a very difficult question to answer, because it will involve the necessity of completing the two great towers, the Victoria tower and the clock tower, in order to put the whole system into perfect operation. It might be put into operation, though not perfectly, at a much earlier period than would be the case if it were considered necessary to wait for the completion of those towers.

105. Viscount *Palmerston.*] Would the addition of this new tower delay, to any considerable extent, the completion of the whole?—Not in the least degree.

Jovis, 30° *die Septembris*, 1841.

MEMBERS PRESENT:

Mr. Hawes.	Lord Viscount Palmerston.
Mr. Tufnell.	Sir Charles Burrell.
The Earl of Lincoln.	

MR. CHANCELLOR OF THE EXCHEQUER IN THE CHAIR.

Charles Barry, Esq.; further Examined.

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106. *Chairman.*] THE Select Committee which reported on the plans for the Houses of Parliament in the Session of 1835, reported this as their 9th Resolution: "That special provision be made for the due ventilation of all the rooms in the new House." Have you, in constructing the buildings, made any provision for carrying that resolution into effect?—I have not made any special provision for carrying that resolution into effect, as it was impossible to do so, in consequence of the system not having been then determined on; but I have made the ordinary provision of flues in the walls to a certain extent, which I imagine will be applicable to any system that may be adopted; but those flues occasion no extra expense whatever, because there is a saving of material, which is equal to the cost of the labour of forming the flues.

107. Mr. *Hawes.*] The Committee on Ventilation recommended that the whole of the space below the two chambers, and the whole of the space above, should be unoccupied, and left applicable solely to the purposes for the ventilation of the premises; is that adhered to in the present plan?—Yes; I omitted to state that such provision is made in the present plan.

108. With regard to the provision for ventilation, will you describe what provision you have already made in the existing plan, and comprehended in the existing estimate, pursuant to the 9th Resolution just referred to?—The provision already made consists of a great variety of flues in the walls, which have been constructed under the guidance and direction of Dr. Reid, but which have not been attended with any material expense up to the present moment.

109. They are now all applicable to the purposes of ventilation?—They are all applicable to the system which Dr. Reid proposes.

110. Will you explain how there is now so large a demand for the purposes of ventilation?—That is wholly dependent on the system proposed by Dr. Reid.

111. Do you put the whole expense now demanded upon that system in addition to the provision already made?—Yes, as far as the amount relates to warming and ventilation.

112. Notwithstanding the space you have reserved above and below the Houses, the flues, according to the plan suggested by Dr. Reid, will involve that extra expense?—Yes, but not the whole amount of the estimate of 86,000*l.*; that proportion of it only which has been already explained by Dr. Reid as applicable to his system.

113. Have the goodness to state a little more in detail what is the extra provision the plan requires, in addition to the provision previously made, and the extra expense consequent on the recommendation of Dr. Reid?—The additions consist of a tower above the octagon hall, in the centre of the building, for the discharge of vitiated air; flues under all the floors, roof, &c.; vertical air-shafts in connexion with them; vaulting of the basement-story, and various miscellaneous works, the entire cost of which would be about 32,320*l.*; and if that part of the system of Dr. Reid which relates to the prevention of smoke and down-draughts from the chimneys should be adopted, a further expense will be incurred of about 20,680*l.*

114. Describe the miscellaneous works?—It is impossible to specify in detail the miscellaneous works without the aid of the working plans, and going into much detail, which would not be very intelligible to the Committee; they consist, however, principally of minor alterations of the foundation and other walls of the building, consequent upon the proposed system of warming, &c.; connexions between the several flues, vertically and horizontally, &c.; but the cost of such works forms a very inconsiderable portion of the item of 32,320*l.*

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115. Did part of the original estimate provide for the extra expense of fire-proofing?—Yes, it did.

116. Sir *Charles Burrell.*] Do the flues which you have at present constructed contemplate an egress in any particular part of the building?—They are applicable to an egress in any part of the building.

117. Mr. *Hawes.*] Part of the original estimate comprehended rendering part of the buildings fire-proof?—Yes, that expense was included in the estimate.

118. Will you have the goodness to state what part?—The fire-proof principle was not intended to be applied throughout the official residences, but to a certain extent only, the lower story being made fire-proof by means of brick-vaulting, but the upper floors were not made fire-proof.

119. What addition do you propose in the estimate for the additional fire-proofing you now suggest?—The item in the abstract of my estimate which I have delivered in to the Committee, amounting to 21,000*l.*, is for rendering the building entirely fire-proof; that is, the rendering the floors of the residences, as well as every other part of the building, fire-proof.

120. Twenty-one thousand pounds in addition to the Parliamentary estimate is intended to complete the fire-proofing of the building?—Yes, to make every floor of every story fire-proof.

121. Have you at all with Dr. Reid taken into consideration the cost of the plan of ventilation simply, without any alteration of any existing plans?—I have not.

122. Would there be any difficulty in turning your joint attention to that subject, in order to furnish the Committee with your opinion on the adoption of a system of ventilation without any material alteration of your existing plans?—There would be no difficulty whatever in our conferring together on that subject, and making, perhaps, a joint report to the Committee, if it should be desired; but the system which Dr. Reid proposes does not interfere with the arrangement of the plan in any respect whatever, therefore no advantage would arise in that respect from the adoption of any other system in lieu of that which is proposed.

123. Would it not be possible to get an estimate of a plan of ventilation without any addition to your existing plans?—That I am not at all prepared to say; the vaulting of the basement is not included in the original estimate, as, according to the original design, there would not have been any basement whatever; the principal floor is that which is usually called the one-pair floor; and in the original design the story below, usually called the ground-floor, was the lowest story; but a basement-story is now proposed to be formed between the foundation walls.

124. Below the two chambers provision was made in your plan for the space to be devoted entirely either to the purpose of warming or ventilating the chambers?—Yes; and that was the ground-floor.

125. The ground-floor containing that space is a vaulted chamber; is it not thus separated from the chambers above?—Yes, it is so; but at present provision is made for a second-floor, a complete basement as well as a ground-floor; it is, in fact, another story.

126. Then that part of the recommendation of the Committee on Ventilation has not been followed?—Undoubtedly it has been followed, for the ground-story was the space required below the House.

127. The recommendation in the original design has been adhered to in your opinion?—The whole area below the Houses, both in the ground-story as well as in the basement-story, is proposed to be appropriated to the purposes of warming and ventilation.

128. If the whole area below the two chambers is preserved for the purposes of warming or ventilation, that may be considered fire-proof, and adapted for the purpose?—Yes.

129. Then why, in estimate marked No. 1, have you charged 12,000*l.* for air-flues under the basement and under all the floors, including the vaulting of the basement?—Because the basement-story is an entire new creation, not part of the original plan.

130. Why do you desire a basement below the ground-story?—Owing to the system proposed by Dr. Reid, which makes it desirable to have a basement-story throughout the building.

131. Then the basement-story is under not only the two chambers, but the offices also?—It is under the chambers provided for the two Houses as well as under every other part of the building.

132. Is

132. Is the whole space below the two Houses now left according to your existing plan for ventilation?—The whole space below the Houses was proposed to be appropriated to the purposes of ventilation.

133. Then why do you require a basement in addition to the space provided for below the two Houses?—To carry out more perfectly Dr. Reid's plan of ventilation.

134. If you should give the whole of this space under the two chambers for the purposes of ventilation and warming, you would still require to carry out Dr. Reid's plan of an additional basement?—Yes.

135. Sir *Charles Burrell.*] Will not that also tend greatly to keep the chambers above dry, and in a more perfect state free from damp?—I should say there is no question that such would be the result.

136. Have you not generally found it so in country houses, where there are arched cellars underneath a part of the house, that that part is much drier than that which stands on the surface of the ground?—Yes, according to my experience, that is invariably the case.

137. Mr. *Hawes.*] Is there any estimate of the warming apparatus distinct and separate, without reference to any of the proposed alterations?—I have no estimate of that sort, as the subject has not been brought under my notice.

138. Would it be possible to give the Committee accurate information as to the expense of the warming apparatus intended, quite apart from the ventilation and from any of the proposed alterations in the plan?—That is a question which Dr. Reid would be best able to answer.

139. Can you state the additional expense of the foundation of the basement-story?—It is included in the item of 12,350*l.*, which is for the vaulting, &c.; the increase in the expense in the walls is very immaterial, because if the basement had not been formed, concrete would probably have been laid of a greater depth; it is therefore merely the balance of the cost of the brick-work against the cost of the original provision for the concrete, so that the principal excess would be the vaulting, which is included in the item in my estimate of 12,320*l.*

140. Sir *Charles Burrell.*] In the estimate you put in on a former day, you stated that the 20,680*l.* for the fire-proof floor under the whole of the roofs of the various parts of the building will not be required unless the central shaft is also used as a central chimney?—It will not be required for carrying the various chimney-flues, but it may be desirable in other respects, such as preserving the roof from fire, &c.

141. Earl of *Lincoln.*] At the last sitting of the Committee, in questions 85 and 86, the Chairman asked you for information relative to the last paragraph in Lord Duncannon's letter to the Chancellor of the Exchequer, in which he states: "From the prices at which contracts have been taken for the works already in progress, there can be no doubt, with care and attention, that a considerable saving will take place on the original estimate." On that occasion you answered that you were not prepared to corroborate or invalidate that observation, and that you were not aware of the existence of the letter; can you now give any further information to the Committee relative to that paragraph?—No, I can give no further information beyond what is contained in my report to the Office of Woods.

142. Are you at all aware what Lord Duncannon could have referred to in that statement as to the expectation of a saving?—I imagine it to have been Lord Duncannon's idea that a very considerable proportion of the Steetley stone would have been used, in which case there would have been little or no excess upon the original estimate, but the excess or saving will depend entirely on the proportion which is used of the more expensive stone, namely, the Bolsover, and until the whole of the works are measured, to ascertain exactly the proportions of each of the stones alluded to, it will be impossible to say whether there will be a saving or not.

143. In a memorandum which you submitted in October 1839, you state that it is desirable that the contract should be made at the amount of the tender for Bolsover stone?—I did.

144. That having been the case, do you not apprehend that any saving on the original estimate is very improbable?—It is, for the reasons I have before stated, quite impossible to say whether there may be an excess or not; until the works are measured it is not possible at present to ascertain the quantities of the two stones which may be used.

145. *Chairman.*] The question is not whether there will be an excess of

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the original estimate, but whether there will be a saving on the original estimate?—I cannot undertake to say that there will be a saving.

146. Earl of *Lincoln.*] You apprehend, from the prices at which the contracts have been taken, we have no right to expect that saving which Lord Duncannon refers to as probable in his letter to the Chancellor of the Exchequer?—I cannot say that there will be no saving, but my impression is, that a saving will not be effected.

147. *Chairman.*] Can you guarantee the Committee against there being an excess?—I cannot.

148. How did it happen that the whole of the private residences were not made fire-proof in the first instance, and the provision made accordingly in the estimate?—Provision was made, to a certain extent, for making the residences fire-proof, by vaulting over the ground-floor and by providing iron doors in the party-walls between the residences and the public portions of the building; but the provision now contemplated is that of making each story fire-proof against the next.

149. The provision you have made would have prevented a fire in the private residences extending into the public buildings?—I imagine that it would.

150. Lord *Palmerston.*] Would it along the roof?—Yes, for the party-wall was intended to be carried through the roof.

151. Would there be no junction of the beams?—No, there would be no difficulty in preventing all connexion between timbers by means of the party-walls.

152. Sir *Charles Burrell.*] That may be considered as having been done?—Yes.

153. Is any of the wood-work in the public building Kyanized?—Provision is made for Kyanizing, but up to the present time we have not made use of any timber; the carcase of the building consists entirely of incombustible materials, brick-work, stone and iron.

154. Are there any particular woods that would not burn into a flame, such as the poplar, &c.?—I have heard that such is the case with some descriptions of timber, but I cannot speak to the fact from my own experience.

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155. Mr. *Hawes.*] ARE you aware of the space which, according to Mr. Barry's plan, is left to you for the purpose of ventilating and warming the new Houses immediately under the two chambers, without making any further provision by way of basement, such as that you have heard described by Mr. Barry?—I was not aware that the space under the ground-floor was to be given for ventilation, but solely that under the Houses proper; I was quite aware that the space under the Houses proper had been reserved for that purpose.

156. You were not aware that any additional basement was to be created for your plan?—I requested particularly that that might be done.

157. You consider it essential that you should not only have the space under the two chambers, but an additional provision, such as Mr. Barry has described?—Perhaps not absolutely essential, but of immense value in this respect: in the present Houses our greatest difficulty is to supply air at a moderate temperature in warm weather; but if this immense basement were left free, which otherwise would be entirely filled with concrete, of no particular service to any one, it would provide an invaluable reservoir of comparatively cold air in the warmest and most sultry weather; it was with that view principally that I recommended the not filling the basement, or that which would have been the basement, with concrete. Further, it was considered that it would be so far advantageous in leaving considerable spaces unappropriated in the ground-floor that otherwise would be requisite for mechanical power for warming apparatus, or other arrangements connected with warming and ventilating.

158. Are you of opinion that the space originally provided, without the addition of the basement, is insufficient for your purposes?—I do consider it insufficient if reference is made to the space under the Houses proper alone.

159. And that it is necessary to incur this additional expense with a view of carrying out your plan of ventilation satisfactorily to yourself?—It is.

160. Mr. *Tufnell.*] When you say "if reference is made to the space under the Houses proper alone," do you mean that if reference is made to the whole building, it is not so?—I understood the question to refer to the space that was provided under the Houses proper.

161. If

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161. If provision is made for ventilation through the whole extent of the building, do you require the basement-story as well as the chambers below?—It perhaps is not strictly correct to say that it is absolutely essential, for it could be managed otherwise; but at the same time I should consider that it would be managed in an inferior way, principally in two respects: first, that it would be impossible, without interfering with the various passages in the ground-floor to a great extent, to provide the proper communications where the movements of the air have to depend on one uniform system; secondly, we should lose entirely the power of cooling the air without expense in warm weather, which I regard, from my experience during the last year in the two Houses, as an object of very great consequence; we are continually reduced to the alternative of either introducing ordinary air in vast quantities, which is exceedingly offensive to many individuals, or of being told that Members who insist on so large a supply find it necessary to leave the House if it is not given to them.

162. Mr. *Hawes.*] What would be the extra cost of cooling the air if you had no basement, but were left entirely to carry into effect your objects in the space originally contemplated?—I could not give a specific answer to that, unless there were some information given to aid me in ascertaining the supply with which the Members of both Houses would be content.

163. Would it amount to the interest on the 12,500*l.* at five per cent.?—I think it would largely exceed that sum; on several occasions we have attempted to cool the air, but the cost has been great where we depended on artificial cooling by any arrangements hitherto adopted; five to ten guineas a day have been expended for this purpose in those few cases in which it has been resorted to.

164. For how many days in the course of the summer should you be likely to incur that expense?—For two months; I have seen it so hot that Members continually inquired as to the possibility of cooling the air directly, instead of causing it to produce an equivalent cooling effect by increasing the supply, and consequently augmenting the draught.

165. That, at five guineas a day, for 60 days would be 300 guineas?—I ought to mention, that the cooling to which I referred was only in an experiment continued for two hours at the season of the prorogation; whereas the cooling, if it were to be sustained for the whole time the Houses might sit, would require to be maintained for days consecutively.

166. Is this basement simply intended for the purpose of providing a reservoir of cool air?—It is provided also for two other purposes.

167. Is it essential for those other purposes?—I consider it essential with the economical system of the movement of air; if we were to break up the system of ventilation so as to have a series of circulations within each different compartment of the building where the passages would not interfere with the progress of the air, the basement might be of comparatively little use except for cooling the air; but there has been a difficulty in obtaining the necessary channels for circulation, first, for the ingress, and next for the egress of air; if there were no basement, it would interfere very seriously with the ground-floor to provide the various channels there for ingress and egress to a common centre; and unless a common centre be resorted to for receiving all the air, from which, when prepared, it shall flow out like the circulating system of the human frame to all the different apartments of the building, there must be great additional expense incurred in the separate arrangements that would then be required, according to the number of independent circulations which might be provided, not attendant on the other system.

168. Your system applies to the ventilation, not only of the two Houses, but every smaller compartment connected with the Houses?—Every apartment connected with the Houses.

169. Including the committee-rooms?—Yes.

170. Earl of *Lincoln.*] In comparing the relative advantages of the ground-floor as the great receptacle for cool air, and the basement-story, you conceive that if you only employ the present ground-floor, you will require an expensive machinery for the purpose of propelling air into the different apartments?—A propelling power would be necessary under either circumstance, if machinery be preferred to the shaft; but the great expense of using the ground-floor alone would arise from the difficulty of obtaining passages by which the air might proceed from one chamber to another.

171. Mr. *Hawes.*] Is this basement to extend under the whole building, or

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under the two chambers only?—It is contemplated that it shall be extended under the whole building.

172. Is there to be a current of fresh air entering every apartment of the building by one arrangement of the flues, and escaping by one central egress?—That is the system contemplated.

173. Which is extended to every apartment throughout the building?—Yes, to every apartment throughout the building.

174. Is it proposed to bring that air from a great altitude?—From the greatest accessible altitude; about 200 feet from the surface of the ground.

175. The central shaft is only for the purpose of egress?—For the purpose of egress.

176. Not for the purpose of ingress?—No; it is proposed that the supply shall take place at one or other of the two towers, according to the different directions of the wind, so that by having the power to take the air from either one extremity of the building or the other, we may have a constant plenum impulse sustained by natural causes.

177. Suppose you were asked for an estimate of the ventilation of the two Houses, and the lobbies and library merely, could you furnish the Committee with that, without extending the system of ventilation and warming universally?—There could be no difficulty in providing that estimate.

178. That would be, of course, an estimate far below that under the consideration of the Committee?—It would be considerably below, in some respects; but it is contemplated to use the power on the committee-rooms in the day-time which would be used in the Houses in the afternoon; therefore I could not state, at this moment, that the reduction might be so great as might be anticipated.

179. Supposing it were proposed to extend the system only to the two Houses, and the lobbies and library rooms, you could furnish that estimate?—Certainly.

180. Earl of *Lincoln*.] The reduction would be only upon the 12,500*l*.?—The reduction would be principally in the fire-proofing; contemplating the possibility of the use of gas, and adverting to the great increase of information on the subject of spontaneous combustion, I thought that, quite independent of ventilation, the recent facts in that department of science indicated the propriety of considering the provision of a fire-proof floor under the roof.

181. Mr. *Hawes*.] If the ventilation were confined to the two chambers and the principal committee-rooms contiguous, a part of the expense of fire-proofing the whole building and of constructing the basement, amounting together to 32,000*l*., would be saved?—I do not conceive the expense of the basement could be well saved, unless with a corresponding loss in the quality of the air supplied.

182. *Chairman*.] The committee-rooms extend very nearly throughout the whole building?—They extend throughout the whole of the river front, with the exception of the official residences, and throughout the one-half of the building on the Palace-yard side.

183. Mr. *Tufnell*.] The saving in the apparatus for warming the air, supposing the central shaft adopted, will be 4,000*l*.?—For propelling the air, it is contemplated to have the same provision for warming the air, whether by shaft or machinery.

184. Would you require more powerful machinery if there were not a shaft?—Not merely more powerful machinery, but I should consider it unsafe to work by machinery without a duplicate engine to resort to, in case of accident; by means of the shaft which has been erected, we have had the power constantly in action, and never once, in these last five years, has it been known to fluctuate for a moment; but were the slightest accident to occur in one engine, unless there were another to replace it, there might be a temporary difficulty, without the means of obviating it.

185. Then, if you have a central shaft, you still will require a separate engine?—Yes; but the principal time for using this engine would be when the Houses are densely crowded, as when the Members stood one on a foot, and then it would be important to have the power of producing a plenum movement by a mechanical power.

186. *Chairman*.] Do you think it necessary to provide an engine for those extraordinary occasions when persons stand so close?—It is perhaps a matter of opinion; I rest my view on the necessity of providing not merely for ordinary but extreme complaints which are made at times, when it might be attempted, by mechanical means, to avert the draughts. At times, many Members who are perceived

ceived occasionally at the doors, say to us, "We cannot withstand certain draughts at the door;" while others, at the very same moment, may be affirming that they have not sufficient air. The plenum movement within, when Members do collect in such small spaces, and in such numbers as I have referred to, would be the means of diminishing such complaints.

187. Have not the complaints arisen more in the House of Lords as to the inconveniences arising from this pressure?—There have been more complaints in the House of Lords than in the House of Commons; but perhaps the difference of the circumstances under which the arrangements there were made will account for this.

188. Would not those complaints be done away when the House of Lords was of a more suitable size?—Yes, they would be diminished, especially when the lobbies are ventilated, which is not the case at present.

189. Then, do you think it would be necessary to have this engine in addition to the tower?—It is contemplated, and I think it is necessary.

190. Mr. *Hawes.*] A duplicate engine?—No, one engine.

191. Mr. *Tufnell.*] You must have some shaft for the escape of the air?—Numerous shafts may be used, if one is objected to.

192. Whether there is one shaft for one-half of the building, or it is divided into numerous shafts, would you require the apparatus in the new building besides?—I should certainly recommend an apparatus of a smaller power to be provided.

193. But, under ordinary circumstances, you would not use it?—I would not, under ordinary circumstances, but might when a number were congregated in particular localities.

194. *Chairman.*] Your plan contemplates the carrying every chimney from every room of the building into the central tower?—Yes, throughout the building.

195. You state that the not doing that, but allowing the chimneys to be conducted as at present provided for in the plan, would make a considerable saving of expense?—It would, a very considerable saving.

196. Would the complete ventilation of the building, leaving the fire-places as at present provided, occasion great danger of smoke?—It would, unless means were adopted to counteract it; but the tendency to smoke might be obviated, in a great measure, if not altogether, by using particular forms of chimneys, and certainly altogether, if hot water apparatus be employed for heating the committee-rooms.

197. Considering the inconvenience which results from smoky rooms, would you consider your system incomplete if all the chimneys were not conducted into the common flue of the great chimney?—I should not consider it placed on the most desirable footing; at the same time, I entertain the opinion that it might be worked well, so as to give satisfaction, without making that an essential point.

198. And that there might be fires in the committee-rooms and general rooms, without the danger of smoke?—Certainly.

199. Viscount *Palmerston.*] Would not hot water apparatus, on so extensive a scale, be very expensive?—It would be expensive, in the first instance, but I should not consider the annual expenditure so great as that of an ordinary fire.

200. The first expense would be considerable?—It would.

201. Do you find that mode of warming apartments answer?—I have never seen the mild hot water apparatus fail; that which is used at present in the House of Commons has never been touched once for the last five years; it has never given the slightest trouble; we have had many complaints of its being too cold or too warm, according to the peculiar constitution of different individuals, but never one that could in any way be attributed to the apparatus.

202. Would you recommend that the committee-rooms should have no fire-places, and should be altogether dependent for their warming on this general hot water system?—I entertain that opinion very strongly; at the same time, considering the very agreeable and cheerful appearance of a fire, and also the circumstance that on numerous occasions an individual who has been subjected to extreme cold wishes for a short time to experience a more powerful warmth than that apparatus gives, it may be desirable to have small fires in the committee-rooms, or, if not in the committee-rooms, in some central chamber or hall to which the Members may resort before they enter the committee-rooms.

203. Mr. *Tufnell.*] In your evidence before the Lords' Committee, you stated that it was contemplated to use gas wherever there was a cooking apparatus?—

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I am not aware that I stated it in those words; there may be some difference in the punctuation, or perhaps in the wording, which renders it not clear; I meant that both gas and fuel should be used, according to circumstances, for cooking apparatus.

204. Supposing there should be an objection to using gas for cooking, would that make your plan of the flues concentrating in the central shaft more difficult?—Not at all; the use of gas was only contemplated as being exceedingly convenient in numerous instances where a considerable temperature was required at once, and under circumstances where there could be no possible objection to its use.

205. Sir *Charles Burrell.*] Can you state any instances in which it is used for cooking?—I am not aware of any houses in London where it is so used; but it is in the establishments of various gentlemen in Edinburgh; and I have been in the habit for eight years of employing 200 burners that might be used for culinary purposes in an establishment to which I have already referred, being used for operations precisely similar.

206. Viscount *Palmerston.*] How are the new committee-rooms in the cloisters warmed?—I am not aware how they are warmed.

207. Mr. *Hawes.*] Can you furnish an estimate of the expense of ventilating the two Houses of Parliament, the lobbies and the library?—That can be done.

208. Mr. *Tufnell.*] Supposing the rooms in the building were warmed by draughts and flues with chimneys in the ordinary way, would not the high tower create great danger of their smoking?—I should apprehend there would be very considerable difficulty in the immediate localities of the tower, and that there would be a great tendency to the deposition of soot in the different courts.

209. Supposing your plan of concentrating all the flues into the central shaft is not adopted, it would be necessary to make provision for the flues in the neighbourhood of the tower?—It would be necessary to proceed in one of two ways, either to make some peculiar provision adapted to the particular locality, or to take that mode of destroying smoke which I believe in all cases succeeds; that is, to have the draught increased to such an extent that it shall approach more or less in force to the draught of a furnace; numerous contrivances for curing the down-draught of smoky chimneys are constructed on this principle.

210. A smoky chimney would be an argument against multiplying flues unnecessarily?—That was one of the principal reasons why I suggested that there should be but one exit for the discharge of foul air, for the movements from each chimney would be kept under perfect control, and subject to no variation.

Veneris, 1° *die Octobris*, 1841.

MEMBERS PRESENT:

Lord Viscount Palmerston.	Sir Charles Burrell.
Sir Richard Vyvyan.	Lord Viscount Sandon.
Mr. Hawes.	Sir John Guest.

MR. CHANCELLOR OF THE EXCHEQUER IN THE CHAIR.

Charles Barry, Esq.; further Examined.

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211. IN your opinion, is it expedient that the fire-proofing should be extended to all parts of the building, to the private residences and smaller rooms, as well as to the Houses of Parliament and the lobbies?—I have no hesitation in saying that I think it would be very desirable to extend it throughout in a building of such magnitude and importance as the new Houses of Parliament.

212. Supposing the fire-proofing to be carried through all parts of the building, what do you estimate the expense at, roughly speaking?—At about 21,000 *l.*, in addition to the cost of the provision which is already made for the purpose.

213. Supposing the fire-proofing was confined to the Houses of Parliament and all the public parts of the building, what would be the difference between the expense of that and the expense of fire-proofing the whole of the building?—It would

would make a difference of that amount, because in the present estimate it is provided that the public portions of the building should be rendered fire-proof with the exception, I should state, of the roof, which is to be of timber.

214. The building, then, would not be completely fire-proof?—If a fire were to communicate from the upper story to the roof, which I do not conceive to be at all likely, the building might sustain damage.

215. Supposing the whole of the building was not to be made fire-proof, do you think it would be worth while to go to the expense of a fire-proof roof?—I think it might be desirable, though I confess I do not think that there is much risk of fire when the floors are made thoroughly fire-proof.

216. If a fire took place in the upper floor, would that affect the public parts of the building?—I should say not to any considerable extent.

217. If Dr. Reid's plan is put into execution, it will render fire-proofing necessary, will it not?—It will render necessary a fire-proof floor immediately under the roof.

218. Will that be less expensive than having a fire-proof roof?—No, I do not think it will.

219. When so great a sum is about to be laid out, would it not be well to have the roof fire-proof?—I think it would, or to have a fire-proof floor immediately below the roof.

220. You mean the ceiling of the upper rooms?—I do.

221. In the original estimates for the building, there was an item for the fire-proofing of the public parts of the building, such as the Houses of Parliament, the committee-rooms and the library; this 21,000 *l.*, therefore, refers to the additional fire-proofing that would be required for the purpose of making the whole building fire-proof?—Yes; the sum of 21,000 *l.* applies exclusively to making the residences fire-proof throughout, by which the whole building would be rendered fire-proof.

222. Is any part of the residences brought near the tower which would be the record tower?—No; the residences are at a distance from that part of the building.

223. So that there would be no hazard to the record tower, in case a fire broke out in the residences?—No, little or no risk; public offices, however, are immediately connected with the great tower; in those there would be fires; but I do not think they would occasion any degree of risk in respect of the tower.

224. That will be fire-proofed under the original estimate?—Yes; that is, as far as the floors are concerned, but not as regards the roof.

225. Then, if a fire should run along the roof, it might come into contact with the record tower?—No doubt it might, but without occasioning any risk as regards the tower, which will be wholly constructed of incombustible materials.

226. Suppose the residences were not made fire-proof, and you were to put a fire-proof roof in any part of the building, what increase would there be in the expense beyond the present estimate?—I am not prepared to state what the increase would be, as I have not formed any estimate.

227. No part of the roof will be fire-proof, according to the present plan?—It will not, as it is proposed to be wholly of timber.

228. But a fire in the roof, you say, would not descend into the other parts of the building?—I should say that there would be very little probability of its descending, but I cannot say that it would not do so.

229. You would say that it was next to impossible?—I should rather say that would be extremely improbable, owing to the floors being fire-proof.

230. The original estimate for the building being 740,000 *l.*, and the expense of this being 21,000 *l.*, would not the fire-proofing of the whole building be, in point of fact, effecting an insurance upon it, at a very low rate, when once paid?—I should say that such would be the result.

231. Is it likely that a fire in the private residences would spread to the other parts of the building?—I do not think that it is likely; every provision would be made against it by means of party-walls, and iron doors in those party-walls; but it is almost impossible to say where flying embers of fire may be carried to, especially in high winds.

232. In a violent gale of wind setting that way?—Yes, brands of fire might be carried through the windows and other parts of the building.

233. Supposing Dr. Reid's system were applied to the public buildings alone, would it require an additional outlay for any purpose?—No, it would not,

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as regards the construction of the building, except for the conveyance of the smoke-flues through the roof.

234. Supposing it was thought expedient, notwithstanding the fire-proofing, to insure this new building, would not the premium upon the insurance be less if the whole building was made fire-proof?—Unquestionably.

235. Would not the premium be increased in consequence of the application of a furnace in the shaft?—I should say not, if the whole building was rendered perfectly fire-proof.

236. Is the use of iron in a roof very much dearer than the use of timber?—It altogether depends upon the span of the roof, and the mode of construction; it may be either less or more, according to circumstances.

237. The question had reference to this particular building?—I do not think the difference would be material, either one way or the other.

238. The use of iron would render the roof nearly fire-proof?—Yes, provided the battens for the slates, and the entire roof, were of iron.

239. Are there any instances of that?—Yes, there are numerous instances, as in the railway stations, &c.

240. Is a stone roof ever made use of now in any buildings, as was formerly the case?—Stone groining is sometimes constructed in modern times; a portion of the intended building will be groined with stone; all the old groined ceilings were covered by timber roofs.

241. Is an iron roof much heavier than a wooden one?—No, it need not be so.

242. Is there any risk in expansion and contraction?—There is no difficulty in making compensation for expansion and contraction, so as to avoid all risk.

243. The ventilation is provided for as regards the public buildings; that is to say, the two Houses of Parliament, and the lobbies, and so forth; but supposing it to be extended throughout the whole building, what additional expense would be incurred?—No system of ventilation is yet provided for either for the public portions, or any other parts of the building.

244. The ventilation, then, is an entirely new question?—It is.

245. Supposing it to extend to the whole building, what do you estimate to be the expense of the ventilation?—I think the expense that fairly attaches to the ventilation is about 44,000*l.* or 45,000*l.*

246. Does that include the whole of the building, both public and private?—Yes, it includes the whole building.

247. It includes the cost of the tower?—Yes.

248. Supposing that tower to be omitted, what do you estimate the expense of ventilating by means of frequent egresses?—I do not imagine that there would be much difference in the expense.

249. Would you not thereby avoid a great deal of very fine masonry work that is to be introduced into the tower?—Yes; but it would be necessary to incur a great additional expense in the flues, and the different courses of egress, which I think would be almost equal to the expense of the tower itself.

250. The estimate of the tower is 10,000*l.*?—The difference of expense by adopting the tower would be 10,000*l.*, but the actual cost of the tower would be 20,000*l.*; the extra flues that would be occasioned if the tower was dispensed with would cost 10,000*l.*

251. How do you propose to carry off the smoke from the several rooms?—In the ordinary method, by means of chimney shafts.

252. Are those chimney shafts visible?—They would not appear upon the exterior, but would be confined entirely to the internal walls.

253. The greatest part of the chimneys in the building are in the private residences; there are few chimneys in the committee-rooms, are there not?—A very large portion of the chimneys in the building would belong to the private residences; I should say the greater portion of them.

254. Then the great difficulty in managing the ventilation is from the flues that belong to the private residences?—Yes, I should imagine that to be the great difficulty.

255. And they are farthest, too, from the central tower to which you wish all the ventilation of egress to be brought?—Yes, they are at the extremities of the building.

256. What would be the expense beyond the estimate of building the tower for ventilating the Houses of Parliament and lobbies and the committee-rooms, and carrying

carrying off the smoke from the Houses of Parliament, but not from the committee-rooms, allowing the smoke from those to ascend from every fire-place through distinct shafts?—The difference would be the expense of the fire-proof floor which is provided for immediately under the roof, which would be 21,000 *l.*

257. Supposing the plan to be adopted of throwing all the chimneys into one shaft, and so letting the smoke escape, and burning coke in the residences and in the committee-rooms and throughout the whole building, do you feel confident that that could be done without there being smoke which would disfigure this tower?—If a fuel is made use of that does not emit smoke, no unsightly effect could of course be produced upon the building; I should go further and say, that supposing coal fires be used, there would be little risk of any disfigurement of the building, because I imagine that there would be no difficulty in condensing the smoke in the furnace which is to be provided in the central tower.

258. Are you quite confident that you could insure the tower from any smoke, even though you should pass the smoke through a fire?—I cannot say that I am quite confident, but I am strongly of that opinion.

259. Would you risk the building of such a tower if you did not feel confident?—If the tower were adopted, I should feel it to be my duty to satisfy myself on the subject previous to erecting it.

260. Do you think that there would not be an emission of blue smoke?—There would be an emission of vapour from the tower, which would not, I think, be seen from below.

261. When coke is used you see an emission of smoke, though it is not the same colour as when coal is used?—Whatever vapour escapes from the combustion of coke would not, I think, be seen, owing to the great height at which it would be emitted.

262. The air being carried into the shaft from the lower part of the building when there is a good deal of moisture, are you satisfied that there might not be an emission of steam?—I should doubt whether the lower part of the building would ever be subject to moisture, as every precaution will be taken to prevent it.

263. Speaking of this as an architect whose fame very much depends upon the appearance of this building, which do you think would be the preferable mode of carrying the smoke from all the chimneys; up separate flues, or bringing it by one flue, and so into the great tower?—I have no hesitation in saying, that if the system of carrying off the smoke or vapour from the whole of the fire-places into one central shaft is adopted, it would be of essential service to the building, as regards its external effect.

264. Supposing that was to be considered the right thing to be done, is it possible to do it by any other means within the building than by having this new tower; would it be possible, for instance, to take off a portion of what is called the Victoria tower for the purpose?—I imagine that it could not be effected so completely as by a central shaft.

265. Would there be space sufficient, and would it be possible to do that?—I think there would be sufficient space, but it would cause an extra expense, because it would increase materially the length of the flues.

266. So that on the whole you think the central shaft the most economical mode of effecting the object?—Yes, I am certainly of that opinion.

267. If you had an egress from the Victoria tower, and also from the clock tower, would that assist you, a great number of the chimneys being close to the clock tower, and the others being close to the Victoria tower?—I should say a central position would be better, inasmuch as the flues would have to be carried a shorter distance.

268. Might it not be inconvenient to have the ingress and egress of air in the same tower?—I think it would.

269. Supposing there were a chimney both in the Victoria tower and in the clock tower, do you think there would be any saving of expense as compared with having a central tower for that purpose?—If the central tower were required for other purposes, I should say it would be attended with additional expense, in consequence of the additional length of flues, and the extra shafts that would be necessary.

270. That is supposing the tower to be built at any rate, but if the tower was not to be built, it would not be more expensive?—No, probably not.

 271. Supposing

C. Barry, Esq.
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271. Supposing the air were taken at the bottom of the building instead of at the top of the tower, would that diminish the expense?—No, it would not, inasmuch as the adopted design of the tower facilitates the admission of air from the summit, without any extra expense in construction.

272. You feel quite confident of the admission of air from the top of the tower?—I see no difficulty in that respect.

273. What number of flues do you consider you would have to carry into the central tower?—About 400.

274. Is it absolutely necessary that coke should be used, supposing all the chimneys are conducted into one flue?—I imagine not.

275. Would there be any difficulty in sweeping the horizontal flues?—Not the slightest difficulty, as means would be provided for that purpose.

276. You suppose the furnace to burn the smoke in case coal is used?—That, I would beg to suggest, is one mode of accomplishing the object.

277. That furnace would be placed in the central shaft?—Yes, that is the intention.

278. How would you conduct the smoke to that furnace?—By means of flues upon the fire-proof floor under the roofs; the flues would be to a very considerable extent horizontal, but there would be no difficulty whatever in cleaning them, by providing proper soot doors for the purpose.

279. You must have the furnace to consume the smoke above the level of the floor?—Above the level of the ground ceiling, over the central hall.

280. Are not those horizontal flues much more likely to take fire than other flues?—They are certainly more likely to occasion lodgments of soot.

281. And with a timber roof, would they not expose the building to very considerable danger?—No, I think not, as they would be very large, and would be constructed of incombustible materials, and would be laid upon a fire-proof floor.

282. Would not a fire taking place in the flues cause them to explode, and the fire thereby communicate itself to the timber of the roof?—I imagine not, while the exit of the flues remains free from obstruction, which, on account of their size, would be likely always to be the case; and there would be no difficulty in preventing any immediate contact of timber with those flues, although the roof were altogether of timber.

283. Without immediate contact, you apprehend there would be no risk?—I am of that opinion.

284. If a volume of flame was to come out of the flue, would not the great heat have a tendency to destroy the brickwork, and make the flue crumble?—That might be the effect, to a limited extent; but I do not imagine that any danger would ensue in consequence.

285. The flues into which the smoke would come from the 400 chimneys would be of large dimensions?—Yes, they would be of the area of more than 100 ordinary flues.

286. But would not the quantity of soot that would come into that large flue bear the same sort of proportion to the large flue as the quantity of soot in the common chimneys bears to them?—I do not think that would be the case.

David Boswell Reid, Esq., M. D.; further Examined.

D. B. Reid, Esq. M. D.

287. IN your evidence on a former day you stated that there were two means of ventilating the new building, the one by bringing all the flues to one centre, and so taking them up by a shaft in the centre of the building, and the other by having frequent egresses?—I did.

288. You also stated that if the latter of those modes was adopted, namely, that of having frequent egresses, it would be necessary to have powerful engines for the purpose of acting upon the air to effect the ventilation?—It would.

289. Have you well considered this matter, and can you state to the Committee which of those modes would be in point of fact the most expensive and the most effectual?—I consider that either mode can be made effectual during the time that it is in operation, but for such a large building as the new Houses of Parliament I have a decided preference for the shaft, as it would at all times be in action, and might therefore be considered, on the whole, as the most effective and economical mode in the long run.

290. What would the expense of the first outlay upon those engines necessarily be?—On that point I am not prepared to give a precise estimate, for this reason, that

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that I have never been satisfied with the views entertained as to the modes at present adopted for the propulsion or exhaustion of air by mechanical means, and having experimented considerably on the subject, I submitted the whole question to the Board at the Office of Woods, under whose sanction I am at present engaged in carrying on a series of experiments, which I trust will enable me to reduce considerably the outlay that would be necessary at present to secure the requisite mechanical power; therefore, the sum that is stated for machinery I hope to be able to reduce; but until those experiments are concluded, it would be impossible for me to say precisely. I can add another fact on this subject, which is this, that almost all the instruments that I have hitherto seen used for inducing movement in air by mechanical power have been exceedingly small compared with those which I consider might be adopted with advantage and with economy; and from experiments which I have lately made, but which are not yet concluded, I apprehend that, by increasing their magnitude from a few feet in diameter to 20 or 30 feet in diameter, there will be a very great saving in the mechanical power required to work them, for we reduce thereby immensely the friction.

291. Could you not provide in the Victoria tower a shaft sufficiently large to perform the ventilation?—There would be no difficulty in providing a shaft in the Victoria tower; the difficulty connected with the appropriation of the Victoria tower for that purpose is obtaining the necessary channels of communication, without interfering, to a considerable extent, with the different arrangements already agreed to and adopted in the arrangement of the different apartments.

292. Only agreed to in the plan, but not put in execution in any way?—Not as yet put in execution.

293. Supposing there was a large chimney in the Victoria tower, and another in the clock tower, would it be possible to ventilate the building by means of those two?—It would not be possible to supply air of so pure a quality, because we should have no altitude then to take pure air from, unless a central tower were erected; and if it were taken in the immediate vicinity of either of the Houses, those Houses, being so surrounded by courts which will be necessarily receptacles of air from all the surrounding chimneys, we could not calculate on any thing in the shape of a pure atmosphere being obtained from such localities.

294. Then you think it essential for your plan that there should be a central tower, and that all the chimneys of the different buildings should be brought into this tower?—I should not perhaps be inclined to state it in such very strong terms; I do not consider it essential; those points which I have always considered as essential in my plan do not relate so much to the moving power, whether mechanical or by a shaft, as to the quantity of air allowed to each individual, the quality of that air, and the diffusion with which it is supplied; those are the points which I consider essentials connected with my plan.

295. According to your plan, there is to be a great fire at the bottom of the shaft in the central tower for the purpose of rarefaction and of carrying off the foul air; is not that the plan?—It is contemplated to use a fire; but I certainly entertain a hope, from observations which I have made on shafts for many years past, that in by far the greater number of cases, if not entirely, we shall be able to dispense with the application of heat in that central shaft if a sufficient altitude be given.

296. Suppose that common coal were burnt in all the fire-places throughout the building, would that fire be sufficient to burn the smoke, and so to prevent smoke escaping through the tower?—I should not consider that the fire, as I contemplate using it, would be sufficient for that purpose; but adaptations might be made there to assist in the reduction of smoke, and if smoke were drawn through the fire with a sufficiency of fresh air both to consume the smoke and to support the fire, there would be no difficulty in respect of the destruction of smoke; at the same time I apprehend that there are many other modes by which the smoke might be reduced.

297. The principle of passing the smoke through a radiant fire is the principle upon which smoke is endeavoured to be got rid of in the steam-engine chimneys?—It is one mode that has been proposed, and it is an effectual mode where a sufficient quantity of air is thrown in along with it; but it is a mode which admits of considerable variations; and if a sufficiency of fresh air be not thrown in, both to supply the intensity of heat in the burning fuel and in the smoke, it will not pro-

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duce the effect anticipated; to make it certain might involve the consumption of a larger quantity of fuel than might perhaps be necessary by other means.

298. Have you ever seen a steam-engine with a smoke burner upon that principle, of the smoke passing over or through the fire, completely effective?—I have not seen that mode minutely brought into operation, but I have seen other modes brought into operation successfully where a stream of air was made to impinge upon the top of the fuel; there is a mode also of introducing hot air behind the iron bars on which the fuel lies, which has been considered very much lately by Mr. Williams; but I am of opinion that the most effective mode in such cases is to bring the air upon the top of the fuel in regulated quantities.

299. And pass it over the flame?—Pass it among the material to be consumed before the fresh air is so diluted with foul air that it is incapable of arriving at the matter to be destroyed before it loses that temperature at which full combustion certainly takes place.

300. Then, do you feel confident that it might be so managed as entirely to destroy the smoke from the chimneys, supposing common coal to be used?—I do feel confident that the smoke could be destroyed, but, at the same time, I entertain a very strong opinion upon the point that by far the most effective mode is to prevent smoke in the first instance by using a proper and agreeable fuel; if numerous flues were to discharge considerable smoke into a large central shaft, I cannot anticipate any certainty of its being destroyed entirely by fire and air, unless fires were provided so large, so well sustained, consuming so much fuel, and requiring so much attention, that great objections would arise from these considerations alone; it will also be obvious, that unless the fresh air be introduced with much care and skill along with the smoke, there might at times be so little oxygen in the air associated with the smoke, and so much carbonic acid, that it would be difficult or impossible to sustain a proper consuming fire; such has been the result of my experience where this mode has been attempted for destroying numerous noxious vapours as well as smoke; that small fire-place, which the Committee inspected the other day, had been fitted up within a very limited period, and did not show the plan at all, as I could have wished it to have been shown, for producing a fire-place that should give no visible smoke.

301. The whole of your estimate for ventilation, provided this central tower is not erected, would be 34,320*l*?—It would.

302. But you cannot say that that would be a very effective mode of ventilation?—I do consider that it would be effective while in use, but not so constantly or so economically available as the other mode, independent of the risk of those occasional accidents from which no machinery can be considered altogether free.

303. Then the additional 50,780*l*. is for the better arrangement of this ventilation?—It is not for this purpose only; a very large amount is required for the more extensive fire-proofing which has been suggested.

304. (To Mr. *Barry*.) Is it absolutely necessary that the Committee should come to a decision now upon this subject, or can the further consideration of it be deferred till the meeting of Parliament after Christmas?—I think it desirable that a decision should be come to immediately, because if the central tower should be adopted it will be necessary to make some preparations in the foundations now about to be laid.

305. Are those of a very extensive nature?—No, they are not very extensive.

306. What expense would necessarily be incurred between this time and the meeting of Parliament, with a view to the building of this tower hereafter, and the carrying into effect Dr. Reid's plan of ventilation?—I am not prepared to say what amount, but it would be inconsiderable.

307. The foundations are to be the same whether the tower is erected or not?—They would not be quite the same.

308. Additional strength will be required in the foundation if the proposed tower be erected?—Yes.

309. Would the basement require to be differently arranged?—The foundations would require modification. From 2,000*l*. to 3,000*l*. would probably cover the expense that would be incurred between this time and the next meeting of Parliament, and even that will very much depend upon the progress that we make in the interim.

310. Then, in your view, it is not essential that Parliament should come to a decision upon the plan at the present moment?—Not absolutely essential.

311. What

311. What would be the difference of expense in case the residences were not ventilated according to Dr. Reid's plan, but only the public parts of the building?—I have not formed any calculation upon that subject, but the opinion of Dr. Reid is that it would be about 3,000*l.*

312. (To Dr. *Reid.*) Would it be possible to ventilate all the principal committee-rooms upon some system quite independent of the general one now proposed; that is to say, that each room should have its separate means of ventilation, which would answer all practical purposes?—I see no difficulty in detaching the system of ventilation of the Houses in general from the committee-rooms.

313. You might then ventilate the two Houses, the libraries, and the lobbies, and at the same time separately and distinctly ventilate all the principal committee-rooms?—There would be no difficulty as to the possibility of it. The question that occurred to me was, that if a certain provision were made for the Houses proper, that same provision, if connexions were made, would serve for the committee-rooms throughout the day when the Houses were not sitting.

314. Can you give any idea of what the expense would be if the proposition suggested were carried into effect?—I cannot do that at the present moment.

315. You state, that according to the present plan, provided the central tower is not erected, the expense of ventilation would be 34,320*l.*; how much of that sum would be saved provided the ventilation was confined, as the question has suggested?—It would be impossible to answer that question without going over a number of details. The question yesterday put to me in the Committee involved the supposition that the House might be supplied with air, without having recourse to the basement; then if the basement be done away with, there is no source of fresh air very accessible, except on the surface of the ground, or from the river, or in the immediate vicinity of the Houses, which, from the natural movements of the currents that must play around and over the Houses, would always, in my opinion, be loaded with the discharges from the different chimneys and kitchens, exactly in the same manner as Cotton-garden is at the present moment, where we have very considerable difficulty in excluding foul air. We have different openings for fresh air for the House of Commons, and also for the House of Peers; and we are obliged to take the air from one side or the other, according to the direction of the wind, as the wind generally carries the products from the kitchen chimney towards the one opening or the other.

316. At the present moment, you draw the supply of fresh air from a very low level?—Exceedingly low.

317. Upon the plan proposed, you intend to draw the supply of air from a high level?—If the basement be allowed as a communicating channel with the ingress from the towers.

318. Assuming that the basement is not employed, and that you have the space from the ground-floor to the floor of the Houses proper, as was originally intended by the Committee that sat upon ventilation, would not that be sufficient, and could not that space be supplied by air brought from the Victoria or the clock tower?—It might be supplied, were certain spaces allotted for the purpose; but the passages so completely surround the House in every way, that I have found that there has been very great difficulty in getting the necessary channels, even with the use of the basement, without interfering with the necessary communications to and from the different parts of the building.

319. Could you not obtain, by means of those towers, a supply of fresh air to that spacious chamber, without providing additional basement?—It might be done, if the necessary communications required under the principal floor were to be provided.

320. And under those circumstances, the supply of air would be more pure than that which is at present obtained?—I am not prepared to answer that question in the affirmative; at the present moment, we have a complete sweep of the westerly wind from the west, and a complete sweep of the easterly wind from the east; but if the air were not taken from a greater altitude in the new Houses, we should have no resource but the courts.

321. But the question assumes that you do take the air from a higher altitude in the new Houses, and bring it to the chamber under the two Houses: would not in that case the supply of air be more pure than that at present obtained?—It would; if the altitude referred to is that which has been pointed out,

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there would be the same supply, but through a different channel, a channel which is occupied at present, so far as I have seen; whereas, by taking the basement, we interfere with none of the architectural arrangements of the House.

322. The advantage you refer to is solely the use of that part for other purposes?— It is.

323. What other purposes?—I have all along understood, that every possible space was required under the principal floor of the Houses, either for repositories, or for rooms that might be required in connexion with various purposes.

324. That is departing from the understanding which existed as to the present plan, namely, that the space under the two Houses is reserved entirely for the purpose of ventilation?—But I may be permitted to state, that there is no access to that space under the two Houses, except through passages, if the basement be not provided; the space directly under both Houses is surrounded on every side by corridors.

325. But if you confined your ventilation to the two Houses and the rooms adjoining, and brought the air from a higher altitude, could you not do without the tower, and without the basement, without any real practical difficulty?—There would be no difficulty in effecting that object if the necessary communications be permitted; the whole question would be, as to the desirableness of the one plan over the other.

326. But you would not, in that case, be able to manage without machinery?—No, not without machinery.

327. And you contemplate doing away with machinery, provided the shaft in the centre is carried up to the proper height?—Not absolutely and entirely; there has always been a provision made, in the plans submitted, for a small amount of machinery being used, under particular circumstances.

328. Would the difference in the expense of machinery be very great between the two plans?—It would be considerable, as in the one case machinery would alone be depended on; whereas, on the other, it would be required to a much less extent, and only put in action under particular circumstances, as in the present Houses.

329. (To Mr. *Barry*.) Suppose it were determined to decorate the two Houses in the way hinted at in the Committee of the House of Commons of last Session, by employing the fine arts generally throughout the building, do you think it of great importance that, with a view to the preservation of such works of art, the system of ventilation and warming should be universal, so that the atmosphere of the new building may be uniformly dry?—I should think that the power of circulating air through every part of the building by the means suggested would be of essential service to the preservation of any painting, either in fresco or in oil, that might decorate the walls.

330. Then, applying the question simply to those principal portions of the building that are likely to have valuable works of art placed in them, would or would not a secondary or minor system of ventilation effect the purpose?—Probably the same purpose might be effected by a minor system, but I think it would be attended with additional cost, because the machinery that would be necessary to carry out Dr. Reid's system, with reference to the public portion of the building, would be nearly the same, whether it was confined to those portions, or extended to the entire building; the only difference would be that a greater number of flues would be required if it were to be extended over the whole building.

331. You were asked what the expense would be during the next six months in case the preparations were made for the building of this tower; would there be any expense beyond the strengthening of the foundations in regard to the flues, and so forth?—No expense beyond that of strengthening the foundations to suit the proposed system.

332. But with respect to the flues, they might be deferred?—The formation of the flues may be deferred, but some changes in the foundations would be necessary in order to receive the flues hereafter.

333. There is nothing in the operations of the next six months which necessarily calls upon Parliament to decide which system of ventilation or warming shall be adopted?—I should say not, with the exceptions which I have already stated.

334. Then

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334. Then, suppose the Committee were to adopt a resolution authorizing you to strengthen the foundations sufficiently to support the tower, in case it should be judged necessary hereafter to erect that tower, it would answer all the purpose?—It would answer all the purpose for the next six months.

335. There is no immediate necessity for beginning vaulting the basement, that might be begun after the six months as well as at present?—Certainly, that will not be necessary to be done for some considerable time to come.

336. There would be no inconvenience from suspending the final decision in consequence of any alteration that you may in the meantime think it necessary to make in the flues?—I think not.

APPENDIX.

1.

For the expulsion of vitiated air, using machinery alone to assist the natural movements of the air?

1. Air flues under the basement, &c., and under all the floors, including the vaulting of the basement	£. 12,320
2. Apparatus for warming, purifying, propelling and regulating the admission of air	16,000
3. Discharging openings for the escape of foul air	6,000
	£. 34,320

2.

For the expulsion of vitiated air, a central shaft being constructed for this purpose, machinery being provided to assist solely in the ventilation of the Houses proper?

1. Air flues under the basement, &c., and under all the floors, including the vaulting of the basement, and communicating channels in the roof leading to the central shaft	£. 12,320
2. Apparatus for warming, purifying, propelling and regulating the admission of air	12,000
3. The central shaft	20,000
	£. 44,320

N.B.—Were a discharging shaft provided in the Victoria tower, instead of a central shaft, the cost would be less by about 10,000 *l.*

For adding to the preceding scheme (No. 2.) for warming and ventilating a fire-proof floor under the roof, so as to simplify the general construction of flues, and permit them to be discharged by the central shaft	£. 20,680
Estimate as in No. 2.	44,320
	£. 65,000

3.

Providing a discharging shaft, at a distance from the building, conveying the air to it by means of a horizontal tunnel?

This would occasion a serious derangement of the plan, and would incur an extra expense of flues alone of about 10,000 *l.*, in order to clear the building, independent of the expense of a tunnel to an appropriate situation, the cost of the tower, and the site upon which it would stand.

4.

Annual Expenditure?

With respect to this query, it will be impossible for me to give so precise a return as I should wish till I shall have concluded the experiments upon which I proposed to enter in the experimental room which has been constructed for this purpose; but this may be affirmed, that, with a lofty shaft, such as has been proposed, the natural impulse of the wind, aided by the action of the shaft, will generally provide a sufficient power on all ordinary occasions. If machinery alone be depended on, it will be necessary to sustain a more extended establishment, the precise cost of which I am not as yet prepared to estimate.

Sir,

15, Duke-street, Westminster,
Sept. 30, 1841.

Sir,

In presenting the accompanying reply to the queries you have proposed, I beg to remark that of the sums stated in an estimate for warming and ventilating the new Houses of Parliament, that has been frequently referred to in an abridged form, an amount of 21,000 *l.*, for part of the fire-proofing recommended, has no connexion with the arrangements for warming and ventilating. Another sum of 20,680 *l.* will not require to be expended if the common chimney flues are not united together by fire-proof flues upon a fire-proof floor in the roof. An additional sum of 10,000 *l.* may be deducted should a plain shaft be introduced within the Victoria tower, instead of resorting to a central shaft, constructed so as to add to the general architectural effect, which is considered, however, the best arrangement for the ventilation. Lastly, a further expense, not originally contemplated, appears in the estimate for the ventilation, viz. the vaulting of the basement, which ought not, perhaps, to be placed entirely in this account, as great additional accommodation has thereby been left for other purposes in the ground-floor.

I have, &c.
(signed) *D. B. Reid.*

To the Right Honourable
the Chancellor of the Exchequer.

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION

OF THE

NEW HOUSES OF PARLIAMENT

WITH THE

MINUTES OF EVIDENCE,

AND APPENDIX.

Ordered, by The House of Commons, *to be Printed,*
1 *October* 1841.

Under 8 *oz.*

51.

REPORT

FROM THE

SELECT COMMITTEE

ON

LIGHTING THE HOUSE;

TOGETHER WITH THE

MINUTES OF EVIDENCE,

AND APPENDIX.

Ordered, by The House of Commons, *to be Printed,*
20 *May* 1842.

251.

Under 8 *oz.*

Jovis, 21° *die Aprilis*, 1842.

Ordered, That a Select Committee be appointed to inquire into the Remuneration due to Mr. Goldsworthy Gurney for his Services in Lighting The House of Commons.

Veneris, 22° *die Aprilis*, 1842.

A Committee was nominated of—

Sir Charles Lemon.
Earl of Lincoln.
Lord John Russell.
Sir George Clerk.
Lord Eliot.
Mr. Francis Baring.
Sir Thomas Acland.
Mr. William Hamilton.
Mr. Parker.
Mr. Hawes.
Mr. Borthwick.
Sir Frederick Trench.
Mr. Pendarves.
Mr. Gally Knight.
Mr. Rundle.

Ordered, That the Committee have power to send for Persons, Papers, and Records.

Ordered, That Five be the Quorum of the Committee.

Jovis, 28° *die Aprilis*, 1842.

Petition of *William Leithead*, of Newcastle-upon-Tyne, Gentleman, alleging himself to be the Inventor of the Bude Light, and praying to be heard before the Select Committee thereon,—referred.

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MINUTES OF EVIDENCE - - - - - - - - - - p. 9
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REPORT.

THE SELECT COMMITTEE appointed to inquire into the Remuneration due to Mr. *Goldsworthy Gurney*, for his Services in LIGHTING The HOUSE OF COMMONS, and to whom the Petition of *William Leithead* was referred;——HAVE agreed to the following REPORT:

YOUR Committee have thought it convenient to divide their Inquiry into the following heads:

1st. The nature of the engagements entered into by the Government and the Officers of The House of Commons on one part, and Mr. Gurney on the other.

2dly. The Works performed by Mr. Gurney in consequence of these engagements.

3dly. The practical success of the Plans adopted by Mr. Gurney, and the scientific value and originality of his Inventions.

4thly. The Saving effected by his methods, compared in their Expense with any of the more usual modes of lighting large buildings, and more particularly with that heretofore in use in The House of Commons.

With respect to the first head of inquiry, it appears that Mr. Gurney was engaged to make experiments for the better Lighting The House of Commons in the early part of 1839, and that he has been employed in the service of The House ever since. His first agreement was arranged by Mr. Hume with the then Chancellor of the Exchequer, Mr. Spring Rice. The terms were, "That Mr. Gurney should make his experiments at the cost of the Treasury; but that his own time and personal services should be paid for by a Vote of The House, it being a matter immediately for their comfort and consideration." Qs. 3 & 5.

Accordingly, till the existence of his Contract in the beginning of 1841, Mr. Gurney received no money which was not paid, on account of the Woods and Forests, to the different tradesmen who performed works under his direction, or supplied materials for the Light. 7. 9.

In a Return made to The House on the 25th February 1840 by the Office of Woods and Forests, there is a Note to the following effect:—That "no remuneration has been made to the Inventor, nor has any such been applied for, as it was proposed to be left to the determination of The House, after the experiments had been completed." 11.

On the 15th of February 1841, Mr. Gurney was applied to by the Serjeant-at-Arms for an estimate of the expense of maintaining his Light from the 1st of April 1841 to the 1st of April 1842, calculating that The House shall 14.

sit seven months, and five days in the week, making in the whole 30 weeks. In accordance with the estimate then sent in, a Contract was made by Mr. Gurney, in the following terms:—"I will undertake to maintain and furnish all materials for the Lights as now fixed in The House for the sum of - - - - - - - - - - - £.105

" Library, lobbies, passages, &c. - - - - - 145

" Attendants, &c. - - - - - - - - 150

£.400

" Contingencies - - - - - - - - 20

£.420

For the sum of 420 *l.*, from the 1st of April 1841 to the 31st of March 1842, I will personally superintend and manage the whole, on condition that no unnecessary interference, or vexatious annoyance, be offered from any persons, or different departments connected with The House, to the attendants or myself; and that the remuneration for this my personal service be an item for the consideration and determination of the Honourable the Commissioners of Her Majesty's Woods and Forests, or The House, in connexion with the question of compensation for my services in prosecuting the subject from its commencement, as proposed by the Chancellor of the Exchequer and agreed to at that time."

20. On the 2d of March last Mr. Gurney was applied to by the Serjeant-at-Arms to renew his Contract for another year, to which he agreed; stipulating, in the same terms, that the question of remuneration for his personal services, past or to come, should form no part of the agreement then entered into. Under this Contract he is now acting.

From the foregoing statement, it seems evident that throughout the whole of his transactions with the Government, and with The House of Commons, Mr. Gurney's claim for remuneration has been acknowledged and postponed; and that up to the present time he has received no moneys whatever which can be considered in the light of remuneration or reward.

2dly. As to the work performed by Mr. Gurney, Your Committee would observe, that the first experiments, and the nature of the Lights then in use, are fully detailed in the Report of the Evidence taken before the Committee of 1839.

Immediately after the Report of that Committee, Mr. Gurney tried various
23. experiments to enable him to light The House by illuminating the whole of the sloping ground-glass roofs, from the outside; and passing the Light generally through the whole surface. The effect was pleasing, but the Light
24. lost by passing through so large a field, rendered the expense too great to be persevered in.

24. The Light was then confined to seven centres on each side of the roof; but this experiment was abruptly terminated by a Vote of The House; and
26. the use of candles was again had recourse to.

Shortly afterwards a motion was made and carried on a division "That Mr. Gurney's experiments should be resumed," and thus his labours recommenced.

It

It having been recommended by scientific men examined before the Committee of 1839, that pendants below the roof should be lighted, and the Light broken down and softened by ground glass, Mr. Gurney then took up this plan. But, as great difficulty and inconvenience would have resulted from having the Light according to the former plan in this situation, on account of the oil wicks requiring to be trimmed, and the oxygen pipes making the pendants necessarily fixtures, Mr. Gurney next tried the effect of gas; and, as it was found that gas pipes had been already laid over the glass roof for a former experiment not under his direction, and that they were still available, he at once connected them with burners of his own; and the experiment being made, it was generally approved of. Hitherto the arrangement for the use of gas had been experimental only; but at the close of the Session Mr. Hume moved, "That the mode of Lighting then in use be continued, and that the arrangements which were at that time experimental, should be perfected." This motion was withdrawn; but there having been a very general expression of approbation of the existing plan of lighting, the subject was left in the hands of The Speaker, for him to deal with according to his discretion, during the Recess.

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Occasionally in this Session, difficulties had occurred in procuring the necessary supplies of oxygen. In consequence of these difficulties Mr. Gurney resolved to apply the knowledge which he had derived from experiments, commenced in 1822, and repeated in 1839, especially with a view to lighting The House; and he arrived at the conclusion, that an equally powerful Light, and of the same quality as to brilliancy, could be obtained by the combustion of coal gas, purified by a process of his own, in combination with definite proportions of atmospheric air; and thus the use of oxygen was superseded. For some time this method was persevered in, the old burners being also kept in readiness, so that the oxygen could be applied at any time, if the Light should be considered insufficient. But, finally, they have been removed, and the Bude Atmospheric Light is now singly established in The House, and has been extended to the Libraries, Lobbies, and Committee-room No. 6.

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During the whole course of these experiments, and through a period of above three years, Mr. Gurney's attendance has been almost constant.

61.

The explanation of Mr. Gurney's plan will be found in the answers to Questions 63 and the following.

3dly. With respect to the originality and scientific value of Mr. Gurney's Inventions, Your Committee do not think it a part of their duty to express any opinion. They content themselves, therefore, with referring to the evidence of the scientific gentlemen who came before them. Thus much, however, they allow themselves to observe, that as it appears that Mr. Gurney is now acknowledged, both at home and abroad, to have been the inventor of what is called the Drummond Light, so also, as he is in the possession of a patent taken out in 1840, the specification of which Dr. Ure declares to be descriptive of the plan now in operation in The House of Commons, a certain amount of claim, on the ground of originality, cannot be denied to Mr. Gurney, when the whole subject of his services shall be taken into consideration.

81.

As to the practical success of Mr. Gurney's plans, there will be found in the Minutes of Your Committee much interesting and very conclusive evidence; and this not merely with respect to The House of Commons, but also with

99. 108. respect to Clapham Church, St. Mary's Church, Spitalfields, the large Lamp in Waterloo-place, and other situations. All the scientific gentlemen examined concurred in the opinion, that a great increase of Light may be obtained by burning a given quantity of gas, according to Mr. Gurney's method, as compared with any other plan heretofore devised; and in their estimate of this in-
169. crease they differed only to this extent, that one of them considered it to be half, another rather less than half, Mr. Gurney 46 to 48 per cent., and the lowest estimate, that of Dr. Arnott, placed it in the ratio of eight to five.

4thly. Your Committee next directed their attention to the economy of Mr. Gurney's Light. And as it seems to be extremely probable that this House will continue to be lighted by gas, and that the new Houses will also be prepared for lighting with reference to the use of the same material, it might be taken as conclusive of the fact of a great saving, that it is in evidence, that nearly double the effect of light is produced by Mr. Gurney's arrangements, over those of any other plan before invented. But Your Committee have proceeded further to inquire into the cost of lighting The House previous to Mr. Gurney's experiments; and the result, as near as it can be obtained, they now lay before you. Your Committee have referred to the last year, in which candles were generally used, and have taken as an estimate of the cost of candles per night, the mean of the two statements contained in a Return made to The House in August 16th, 1838, namely

	£.	s.	d.
	4	8	2
The cost of 64 Oil Lamps, contracted for at 1 *s.* per night for each Lamp	3	4	–
Total Cost per Night in 1838 £.	7	12	2

Now the mean number of days which The House sat in the three Sessions of 1839, 1840, and 1841, is 131 days. The cost of the Session therefore may be computed to have been 7*l.* 12*s.* 2*d.* × 131, or 996*l.* 13*s.* 10*d.*

Again, it appears by a Return made to Your Committee by Mr. Bellamy, that from the 1st of April 1838 to the 1st of April 1839, the cost of candles was (making an allowance for a period when the Bude Light superseded their use)

	£.	s.	d.
	546	3	6
Deduct the Cost for the year ending 1 April 1842	81	18	–
Saving in 1841 by Candles £.	464	5	6
Saving by 51 Lamps (*see* Mr. Phipps' Return) for 131 nights	385	1	–
Thirteen additional Lights (*see* Phipps, Question 374)	85	3	–
Total Saving £.	934	9	6
Deduct Mr. Gurney's Contract, according to which he is bound to provide Light for 150 days	450	–	–
Nett Saving £.	484	9	6

Thus it would appear that the saving during the time that Mr. Gurney's present plan has been in operation, has been at the rate of about 484 *l.* 9*s.* per annum. But this affords no measure of the saving which will accrue if Mr. Gurney's

Gurney's system should be applied to all the Parliamentary buildings. The increase of expense for attendance will be very little; and if The House of Lords and its purlieus should be lighted by him, the difference of cost in the material of the Light will go almost altogether to the account of the economy which Mr. Gurney will have effected. 400.

It remains only for Your Committee to speak of the Compensation and Reward to be given to Mr. Gurney. They conceive that his claim rests on these grounds :—

That he has for above three years been in the constant employment of The House.

That a considerable saving has been already effected by his means.

That Mr. Gurney has put The House in possession of a cheap, beautiful, and effective system of Lighting, which may be applied to the future Houses of Parliament.

As to the mode in which services of this kind have been rewarded in other cases, Your Committee beg to refer to the Evidence of Dr. Ure, (Question 214), and also to the Return before-mentioned of August 1838, in which the following items are found, relating to the first year of Dr. Reid's attendance :—

	£.	s.	d.
Dr. Reid's attendance and expenses - - - - -	512	15	–
Ditto Gratuity for the application of his system of Ventilation and Acoustics - - - - - - -	500	–	–
Ditto for superintending a single experiment in Lighting with Gas - - - - - - - - - -	50	9	–
£.	1,063	4	–

Keeping in view the several grounds of claim to reward before stated, Your Committee recommend that the Sum of £.1,600 be paid to Mr. Gunrey for his services in Lighting the House of Commons, and his attendance from the commencement of the Session of 1839 until the termination of his present Contract in 1843.

30 *May* 1842.

LIST OF WITNESSES.

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Jovis, 5° die Maii, 1842.

Andrew Ure, Esq. M.D., F.R.S. - - - - - - - p. 21
Charles Wheatstone, Esq. F.R.S. - - - - - - - p. 24
William Keene, Esq. - - - - - - - - p. 26
John Phipps, Esq. - - - - - - - - - p. 29
Neil Arnott, Esq. M.D. - - - - - - - - p. 30
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Jovis, 12° die Maii, 1842.

John Phipps, Esq. - - - - - - - - - p. 32
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MINUTES OF EVIDENCE.

Lunæ, 2° die Maii, 1842.

PRESENT.

Mr. Borthwick.	Earl of Lincoln.
Sir George Clerk.	Mr. Pendarves.
Mr. William Hamilton.	Mr. Rundle.
Mr. Gally Knight.	

SIR CHARLES LEMON, BART. IN THE CHAIR.

THE Petition of *William Leithead*, alleging himself to be the Inventor of the Bude Light, and praying to be heard before the Committee, was read.

Goldsworthy Gurney, Esq. called in; and Examined.

G. Gurney, Esq.

2 May 1842.

1. *Chairman.*] ARE you the person who has had the management of lighting the House of Commons?—I am.

2. How long have you had that management?—From the early part of the Session of 1839 up to the present time.

3. In what terms was the agreement entered into on your part?—The terms were first arranged by Mr. Hume with the Chancellor of the Exchequer, at that time Mr. Spring Rice. The terms were, that I should make the experiments at the cost of the Treasury, but that my own time and personal services should be paid for by a vote of The House, it being a subject immediately for their comfort and consideration. The Government would not themselves undertake to fix any amount, but they would undertake to pay anything which The House should think right when the experiments were completed. It was thought difficult at that time to ascertain what the extent and value of those services might be; therefore on that head also, I believe, it was agreed to be left to The House.

4 Were those terms expressed in writing?—They were, in a correspondence between Mr. Hume and Mr. Spring Rice, I believe.

5. Mr. Hume was a party to it?—As Chairman of the Lighthouse Committee, having seen the light at the Trinity House, he spoke of the light; and the late Speaker, Mr. Abercromby (and I think several Members of the House of Commons), went down to the Trinity House and saw the light; they thought it an advisable light for the House of Commons, thus Mr. Hume became connected with the proposition of lighting; he proposed the Bude light first to the Speaker, and, I think, then to the Chancellor of the Exchequer.

6. How long did you act under that agreement?—I have acted under that agreement from that time to the present; no arrangement has been come to differently since that.

7. According to that agreement, did you from time to time receive certain sums from the Treasury?—I never received any for my services; all sums were paid by the Woods and Forests to the different tradesmen who performed the work. There were some small accounts which I paid, for which I brought vouchers and receipts to the office, and these sums were repaid to me.

8. Did the payment of those bills pass through your hands?—Some of them did; some of the payments for manganese, for instance, which I was obliged to purchase where I could find it; these passed through my hands.

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9. Then you never received any money without at the same time producing some bill or document to prove that the charge had been incurred?—None whatever.

10. And the money received by you was strictly in the nature of repayment?—Yes, for materials for the experiments.

11. And while acting under this agreement no money was paid to you individually for your own use?—There was none whatever paid to me. On reference to a Return which was made to the House by the Woods and Forests, the 25th February 1840, there is a *nota bene* observation at the bottom, that "no remuneration has been made to the inventor, nor has any such been hitherto applied for, as it was proposed to be left to the determination of The House after the experiments had been completed." This was in February 1840; since that period I have gone on upon this understanding.

12. Under any of the qualifications of the plan you have adopted, no change has been made in the terms with regard to the remuneration to yourself?—None whatever. I was applied to at the commencement of the Session of 1841, by the Serjeant-at-Arms, for an estimate for lighting the House.

13. Was there an especial contract between you and the Government in the year 1840?—There was.

14. Give us an account of the terms of that contract?—I have here a copy, and will read it; I was applied to by the Serjeant-at-Arms on the 15th of February for an estimate of the expense of maintaining the Bude light, from the 1st of April 1841 to the 1st of April 1842, calculating that The House would sit seven months, five days in the week, making about 30 weeks, or 150 days the average Session. I felt some difficulty about my personal attendance, and would rather at the time that the Office of Works or some official authorities should have taken it into their own management. I applied to the Speaker and also to the Commissioners of Woods and Forests, all of whom appeared to think that I ought to continue the management; I therefore gave up my intended pursuits and entered into the following contract:—"I will undertake to maintain and provide all materials necessary for the lights as now fixed in the House, for the sum of

	£. 105	per Session.
"Library, Lobbies, Passages, &c. -	- 145	ditto.
"Attendants, &c. - - -	- 150	ditto.
	400	
"Contingencies - -	- 20	
	£. 420	

"For the sum of 420*l.*, from the 1st of April 1841 to 31st March 1842, I will personally superintend and manage the whole, on condition that no unnecessary interference or vexatious annoyance be offered from any persons or different departments connected with the House, to the attendants or myself. And that the remuneration for this my personal service, be an item for the consideration and determination of the Honourable Commissioners of Her Majesty's Woods and Forests, or The House, in connexion with the question of compensation for my services in prosecuting the subject from its commencement, as proposed by the Chancellor of the Exchequer, and agreed to at that time." I here make a stipulation that my personal services shall not be included in this contract. This contract was only for furnishing materials for the light, for men, and attendants. To this contract there was 30 *l.* afterwards added for contingencies and to pay for some further purifying oxide I thought necessary.

15. Making the whole sum 450 *l.*?—Yes.

16. Was there a covenant in that contract to that effect?—There was; it is verbatim.

17. Did that contract apply to the whole Session or to the broken Session?—To the whole year; it included from April 1841 to April 1842.

18. Is

18. Is that contract about to expire?—That contract expired on the 1st of April last.

19. What steps have been taken to renew it?—On the 2d of March I received the following letter from Mr. Bellamy: "I am desired by the Serjeant-at-Arms to request you will inform me, for the purpose of completing the estimates of the coming year, whether or no you will engage to light the House of Commons, offices, and passages, from the 1st of April 1842 to 1st of April 1843, in the same manner, and on the same terms, viz. 450 *l.* Sir, your humble servant, *John Bellamy*."

20. What was your reply to that?—I answered by letter on the 7th of March: "Sir,—In answer to your letter of the 2d instant, I beg to say that I am willing to continue the lighting of the House of Commons, offices, and passages, from the 1st of April 1842 to the 1st of April 1843, in the same manner and on the same terms as last year, namely, 450 *l.*, to cover materials and men's time, it being clearly understood that remuneration for my own personal services and responsibility be an item for the consideration and determination of the Commissioners of Woods and Forests or The House, in connexion with the question of compensation for my time and services in prosecuting the subject from its commencement in 1839, as agreed to and specified in my contract of last Session."

21. Does the matter remain in that state at the present moment?—Yes.

22. You were first engaged to make experiments in the Session of 1839?—Yes; in the spring of 1839.

23. Was it your first experiment to endeavour to illuminate the whole of the sloping roof?—The first experiments are detailed in the Report of the Evidence taken before the Committee on Lighting the House. It will be seen, the lights were placed first in the ceiling, then dropped down into the House, and a variety of other experimental arrangements made, which are all detailed in the evidence. The House was lighted from the sloping roof after the sitting of the Committee. I tried to light the House by illuminating the whole of the sloping roof, as recommended by several of the witnesses examined; but I found the loss of light through such an immense field of glass so great, that I could not advise this mode to be carried out; therefore it was abandoned.

24. Was not your next experiment to light the seven centres on each side of The House?—Seeing I could not illuminate the whole of the ground glass without a frightful loss of light, and great expense, I confined the light to the seven centre frames on each side of the House in the sloping roof, the ground-glass roof.

25. How has this experiment terminated?—The House was so lighted, I think, about six weeks or two months, when it was terminated by a vote of the House; the former mode of lighting by wax candles was again resorted to; my experiments were suspended, and the lights removed from the roof.

26. And the use of candles was resumed?—Yes.

27. Why did you commence your experiments afresh?—I commenced afresh in consequence of a subsequent vote of The House, on a motion of Lord Eliot, that my experiments should be resumed.

28. What modification did you then adopt of your original plan?—Finding that the lights were objected to in the ceilings in the first experiments, and also in the glass roof, I determined to place two pendants hanging from the ceiling of the House, and to surround by large and extensive surfaces of ground glass, so as to soften and bring down the light; pendants were placed in the House at the first opportunity, in the Easter recess.

29. Were these experiments made in concurrence with the opinion of the scientific men who had been before examined?—There were several of the scientific men who recommended that mode.

30. Were you engaged in the year 1826 in making any experiments at the Trinity House, and did you then use the vapour of oil and oil-gas instead of liquid oil, together with a stream of oxygen?—I did, in 1836; I made many experiments with oil-vapour and oil-gas, for the purpose of furnishing the flame to be struck with oxygen; I also made some experiments with coal-gas, impregnated with the vapour of naphtha, turpentine, and Indian rubber. These latter experiments were made in my own laboratory.

 31. Did

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31. Did you about that time endeavour to apply that principle to lighting the House?—I found that if the lights were brought into the pendants in the House there would be great difficulty, in short, that it would be almost impracticable to use liquid oil with oil wicks; the lamps required trimming occasionally, and I felt it would be almost impossible to do so while The House was sitting; the lamps could not be drawn up and down a sufficient distance without great inconvenience; the pipes conveying the oxygen would render those pendants very nearly fixtures; they might be moved up and down a few feet, but they could not be drawn either up or down sufficiently far to be trimmed. I therefore proposed to use oil-vapour, and to make an experiment, with two burners which I had by me, and which I had contrived for the purpose. On the first night I had an opportunity after the recess I made an experiment to see the effect it would produce in the House; I was satisfied; I afterwards used oil-gas, and then coal-gas, with oxygen.

32. Did you find any facilities for an experiment with gas from pipes already laid along the roof of the House for other purposes?—Gas had been introduced into the House, I believe, a Session or two before, for the purpose of lighting; I found the services laid on; I made an experiment to see the effect that would be produced by using the flame of coal-gas for the flame of the oil.

33. Did you make these experiments with the sanction of the Speaker?—After I had made my experiments, and satisfied myself upon the subject, I invited several of my personal friends to come and see and judge of the light; a great number of the Members of The House came also; and the Speaker. The Speaker expressed himself satisfied, and so did exery person present; some gentlemen also came from the Office of Woods.

34. Then the change you made by the substitution of gas for oil was made with the concurrence of the proper authorities?—I immediately informed the proper authorities of the change I proposed to make; and several scientific men were, I believe, consulted upon it.

35. Was Mr. Faraday consulted, in particular?—I consulted Mr. Faraday, and he wrote a letter, stating that the mode of substituting the flame of coal-gas, treated in the way I proposed, was a preferable mode of producing the Bude light, and that it was attended with no danger; the Speaker, I believe, has the letter now; he had it at that time, and most likely has it still.

36. All this passed during the Session of 1839, did it not?—This was in the recess, at Easter, 1839.

37. Then this plan of lighting was persevered in until the close of the Session of 1839?—That mode was adopted immediately after the recess, and it was continued till the end of the Session.

38. Was it generally considered satisfactory?—I inquired of several Members, and waited on the Speaker frequently, who always expressed himself pleased. I heard it was considered very satisfactory generally; I endeavoured to get the sense of The House taken in some way or the other; but whether because the subject was considered not to have been sufficiently tried, or that it was too unimportant a matter, I could not succeed; the day before the close of the Session, Mr. Hume moved that the experiments should be completed, and that the House should be continued to be lighted by the mode which had been adopted during the session of 1839. In the discussion every Member expressed himself satisfied; it was thought that the lighting of the House was a matter for and ought to be under the direction of the Speaker. It was therefore so agreed, I believe, and Mr. Hume accordingly withdrew his motion.

39. During your former experiments with oxygen gas, did you find any difficulty in procuring a sufficient quantity of manganese while the demand was uncertain?—I had considerable difficulty during that Session. Grain manganese is only brought to London in small quantities; it is generally brought in powder for the purpose of bleaching; and as it was uncertain what time the experiments in the House might last, no order was, or could be, sent to the mines to procure a large supply; consequently I was obliged to purchase it in small quantities as I could get it, and at a high price. I was frequently much distressed for it; a house in the city which undertook to supply, and did supply me for some time, sent to say, when I had only a sufficient supply to last about two days, that "they were disappointed in receiving manganese, and could not then supply me in consequence of their vessel being delayed by contrary winds;" I was therefore obliged to get oxygen from powdered manganese,

nese, which I did at great trouble and inconvenience; procuring it from nitre and from other sources also.

40. This is one of your reasons for preferring the use of atmospheric air?—It is one of the reasons which has hastened me in a series of experiments which I was making with a view of substituting atmospheric air for oxygen; but the immense advantage of the one over the other, from its great economy and comparative practicability was too important and self-evident to require any additional reasons.

41. Were you not engaged on this set of experiments with reference to the use of common air in the year 1822?—I was engaged in experiments on coal-gas, oil-gas, oxygen, and common air in 1822, connected with fire-damp in mines, and also with a view of investigating some of the peculiar laws of heat; other objects I had in view; and I carried those experiments to a considerable length; many are detailed in my printed lectures in 1823; it was the recollection of some phenomena which I had observed in those experiments, which led me to inspect and extend them in 1839.

42. Then you repeated your experiments in 1839?—Yes. The experiments of 1822 were made with a view to ascertain some of the phenomena of heat connected with combustion; but those made in 1839 were entirely with a view to light, which appeared to me new and important.

43. Then those experiments were made especially with a view to lighting the House?—Yes, those in 1839.

44. Did you make any charge on account of those experiments?—None whatever; the expense of the materials was little; and the apparatus I required had been manufactured for other philosophical purposes; I made no charge for those experiments.

45. Were you convinced by the result of these experiments, that a sufficiently powerful light could be produced by the use of atmospheric air, without going to the expense of oxygen?—I was most perfectly satisfied. I made experiments to satisfy myself thoroughly; I had them examined by many scientific men, in whom I had confidence. I used the light for a sufficient length of time to prove that it was by far the most preferable mode.

46. And up to the present time you have used only atmospheric air?—Only atmospheric air. The mode in which atmospheric air is used, and method of burning, is peculiar, and the result of a long series of experiments; thinking the invention important, I mentioned it to an official gentleman connected with my engagement, and asked him whether he thought there would be any objection to my applying for a patent, he said he thought not.

47. Did you, in point of fact, take out a patent?—I did.

48. Did the result to which you refer depend in any degree on a change in the properties of coal-gas causing it to inflame at a lower temperature?—Partly. The gas, before it is brought into the House, is passed through a vessel containing certain chemical salts, which purifies it from a great portion of ammonia and sulphur. In consequence of the gas being thus purified, it burns at a lower temperature; common London coal-gas requires a temperature of 600° to inflame it in contact with pure oxygen, but when thus purified, only a temperature of 420°; Edinburgh and Glasgow gas ignites below 600°.

49. Mr. *Gally Knight.*] Do you say that the gas at Glasgow and Edinburgh is purer than the gas in London?—Yes.

50. From what does that arise?—From the kind of coal from which it is made; the coal is more pure; it does not contain so much sulphur.

50*. *Chairman.*] Is that process of purifying the gas expressed in your patent?—It is; after the gas is thus changed, it is burnt in a peculiar way, so as to bring about the increase of light, which I suspected it capable of in 1822, and have now found to be correct with regard to the luminous property of flame and its evolution of light and heat.

51. At the close of 1839 did you receive directions to extend your process to the libraries, lobbies, &c.?—I did; I received instructions to do so during the recess of 1840.

52. And when was that done?—Before the Session of 1841 the arrangements were completed.

53. In making these arrangements, did you find it necessary to provide against the contingency of failure, by still keeping in a perfect state your apparatus for the use of oxygen?—The difficulty I experienced in obtaining

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manganese might have been overcome by having a supply on hand; my great reason was that I considered the light more economical, more practical, and capable of a better mode of lighting the House of Commons; it was a light of equal power, the same quality, but not of so great intensity; and as intensity had been complained of in previous discussions in the House, and as this light was of a softer character, on this account also it appeared to me a preferable light.

54. You have not had so much confidence in your new plan, as to induce you entirely to remove the apparatus for the use of oxygen?—I have had sufficient confidence in it myself; but I did not think I should be justified in removing the oxygen lights until the atmospheric arrangement had been seen and approved of by The House; I therefore retained both systems during the Sessions of 1840, 1841, up to 1842, or rather up to the commencement of the Session of 1842. Both systems of burners were in the House and ready to be changed, the one for the other, while the House was sitting, if it should be desired; one burner was placed over the other.

55. That is to say, there were double burners?—Yes; the pipes were not disturbed, or was the oxygen apparatus changed. It all remained as in the Session before.

56. And you might have brought either plan into operation?—I might have brought either plan into operation while The House was sitting. I attended for the purpose every night at the House, thinking that some wish as to a change of light might be expressed; but as, on the contrary, everybody appeared more pleased with this light than they had done the Session before with the other, and as I received no intimation of a wish for change from the Speaker, I did not think right to make any change. My fixing the two burners was not from any feeling of doubt or want of confidence, but because I might be prepared, in case a wish should be expressed from the House.

57. While this experiment was in course, was your attendance in the House continual?— Constant.

58. How long did the double burners remain?—They were not removed till the commencement of the present Session.

59. And you are now satisfied as to the practical advantage of atmospheric air?—Perfectly satisfied.

60. What evidence have you of its convenience?—Practical evidence of the light itself; a great many scientific men have lately minutely examined it, and if required, may be called before this Committee.

61. During the whole course of these experiments, what has been your attendance?—My attendance, during the whole course of the four years, has been almost constant. With the exception of about a month or six weeks in the recess, I have not left town at all; during the time of the House sitting, I have been in constant attendance; if not in the House, always within call, and in communication with the attendants. During the recess I have made those improvements and changes which have suggested themselves.

62. And that plan is now in operation?—That plan is now adopted in the House.

63. Will you explain the mechanical principle of the patent?—The mechanical principle by which the light is produced, consists of a series of concentric rings, at definite distances from each other, and so arranged as to regulate the quantity of atsmospheric air, and to communicate, by conduction and radiation, sufficient heat to raise the temperature of the gas to a given point, so as to effect the separation of its charcoal immediately as it leaves the burner; and then, by an arrangement above, to bring fresh atmospheric air at the proper points of flame. A perfect lamp will deposit the charcoal in the flame the instant it passes the jet; an imperfect one will not. If so imperfect as to deposit too soon, charcoal will be found in the rings; if too late, then high up in the flame. There is a point of accuracy required, which practice has determined. This mechanical arrangement brings about a series of chemical changes involved in the evolutions of light and heat, which are very interesting. The rapidity of chemical union governs the respective quantities of heat and light. We may, by a too rapid combination, produce heat alone, and no light; but it does not seem to influence the other products of combustion. The peculiar action of this change may be seen by observing it in comparison with other flames. A common Argand gas-burner has the blue portion of its flame rising about seven-eighths of an inch above the burner. This first process of combustion

combustion is essentially necessary to raise the requisite temperature for the separation of the charcoal, and its after ignition, so as to give out light. A piece of platina wire, held in the blue portion of flame, instantly becomes white hot, showing its heat; it will be seen more clearly by holding a piece of white paper behind the flame; for now, by certain laws of light, the blue colour will be invisible; but the platina wire will continue to give out light, attended with much heat. The other products of combustion seem not to be involved; such, for instance, as carbonic acid, the product from charcoal, sulphureous acid from sulphur, and the other chemical compounds from impurities contained in the gas. Practically, light and heat from combustion may be produced differently from a given quantity of combustible matter.

64. Sir *George Clerk.*] Of the same gas?—Yes.

65. Gas containing the same component parts?—Yes; the heat given out from different combustible bodies is tolerably constant in practice. A given amount of light from wax produces heat equal to 16 and two-tenths; the heat from oil, giving the same quantity of light, is 19 and five-tenths; the heat from street-gas, giving the same amount of light, is 37 and three-tenths; the heat, giving equal light, from the atmospheric Bude, is eighteen, and six-tenths.

66. *Chairman.*] You have called this the Bude light; this is not the plan that was originally called the Bude light?—The apparatus for bringing it about is not the same; the quality of light is about the same.

67. But in the Bude light you used oxygen and oil?—Pure oxygen within the flame of oil.

68. In the light now in use you use neither the one nor the other, except as the atmosphere itself affords one?—The atmosphere the one, and coal-gas the other; coal-gas is carbureted hydrogen gas; oil-gas is a bi-carbureted hydrogen.

69. Mr. *Gally Knight.*] But oil you find not to answer so well?—I could not introduce oil into the pendants in the House.

70. Did you attempt it in the first instance?—The lights were at first kept out of the House; this was had recourse to after the first experiments were objected to.

71. When they were outside the House you had the opportunity of trimming?—Yes.

72. Which you could not do when they were within the House?—It was within the House that the necessity of using something as a substitute for oil arose, and having succeeded in other houses with oil-gas, I was induced to try it in the House of Commons.

73. And this other mode does not require trimming?—It requires no trimming whatever; the great superiority, in point of economy, of the one over the other is a more serious consideration.

74. Mr. *William Hamilton.*] Is the gas now burned nothing but purified street gas?—Nothing else.

75. *Chairman.*] The success of your plan depends a great deal on the accurate adaptation of the supply of atmospheric air?—Its economy and quality entirely depends on definite proportions of atmospheric air being admitted to the burner, and made to act at definite points of flame.

76. And you have obtained that by a series of experiments?—Yes; I believe that the importance of this accuracy was not suspected until it came out in experiments; I found in my experiments with pure oxygen that if it was supplied in too small a quantity in the interior of the flame of oil, oil-gas, or coal-gas, it separated the charcoal, which escaped in the form of smoke, giving no light; and that if it was admitted in excess it produced a great augmentation of heat, with a great diminution also of light, so that there was a point of greatest effect between too little and too much. When I had found this point, I could by proper adoption produce a light by atmospheric air little inferior to that from oxygen. By a proper arrangement of atmospheric air the present light may be made of different tones and qualities, like that from the pure oxygen.

77. *Chairman.*] Was that expressed in your patent?—The patent is granted for mechanical apparatus. I believe the legal gentlemen who had the management of it, were of opinion that no principle can be patented; it was therefore the mechanical arrangement of the burner which brought about the different

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temperature, and the arrangement above the burner, which governs the proper proportion of atmospheric air, that is patented.

78. The object of your patent was merely to secure to yourself a particular arrangement, by which that could be nicely adapted?—Yes.

79. You are now speaking of a second patent, are you not?—1840.

80. When was that taken out?—I think about 12 months since.

81. And that refers to the plan now in use in the House of Commons?—It does. I had not time to complete the perfect arrangement in some of the lights about the passages of the House, therefore they are still unfinished. I did not complete the arrangement of those lights in the passages, but the lights in the House carry out the perfect principle, and those also in the division-rooms, new, the old lobbies. I wished, however, to make them all perfect, but I received instructions from the Office of Woods and Forests requesting that no alterations should be made; the lights were considered satisfactory; I have therefore scrupulously avoided doing anything to them for the last three Sessions.

82. Mr. *Gally Knight.*] When did you say the first patent was obtained?—In 1839, I think.

83. And when was the second obtained?—In 1840.

84. What is the difference between the two?—One is oxygen, the other is to substitute common air.

85. That is the object of the first patent?—That is the object of the second patent. The first was the application of pure oxygen to the interior of the flame. This last is for producing the light by definite proportions of atmospheric air, after a certain temperature has been produced.

86. The terms of the patent apply only to the mechanical arrangement?—Yes; principles cannot be patented.

87. Earl of *Lincoln.*] Is the lamp at the foot of Waterloo-place, under your superintendence?—It is.

88. You have been trying several experiments there?—Only as to the effect of throwing light in certain directions, by peculiar reflection, into the street; and also to ascertain the expense and relative quantity of light transmitted through the open air.

89. The mechanism is precisely the same as in this House?—Precisely the same. The light has been measured by a number of scientific men. The expense of it, I think, is about 7 *d.* an hour; and the light it gives, found, according to the mean of several measurements, equal to about from 43 to 45 such street-lights as were found burning in Regent-street. I have repeatedly made experiments myself, and found the mean of them about the same, namely, 43 to 48. There will always be a difference in the numbers in consequence of the street-lights burning differently at different hours and at different times.

90. Mr. *Borthwick.*] What is the expense of 48 street-lamps?—Sevenpence an hour.

91. Then the expense is the same?—I am speaking only of the pillar-light, it burns about 70 feet of street-gas per hour, which, at about a penny for 10 feet, is 7 *d.*

92. What is the comparative expense of your lamp in Waterloo-place, with that of the 48 street-lamps to which it gives an equivalent amount of light?—Forty-eight street-lights in Regent-street ought to burn five feet of gas an hour each, I have heard such is the contract; I do not think they were burning at the time I made the experiments more than four feet an hour. If we take this quantity for each, the ratio would be as 70 is to 184; that quantity of contracted light could only be applied profitably to large open spaces.

93. *Chairman.*] Have you concentric burners in that light?—Yes, there are four.

94. Mr. *Gally Knight.*] Why could it only be applied to large spaces?—It could be applied, but not profitably; in narrow streets much of such light would be thrown away. A very large portion of it might be directed lengthways, by proper apparatus, along the streets.

95. Then the system for which you obtained the second patent is an improvement upon that for which you obtained the first?—It is very different.

96. The first patent, then, will not be of much use to you?—For philosophic and other purposes, where great focal intensity, is required, it is very valuable; these

these cases, however, are not very plenty. So far as the tone of light is involved it is similar, but the means of producing it are different.

97. But the means used in the second patent are so much the best, that that would be the one that would be used most?—There is no question at all about that. In fact, if there had been a doubt about it in my mind, I should not have thought it right to propose any change; being convinced of the importance of its advantages, I felt that I should be wanting in my duty if I did not propose and make the change. It was said that it was against my interest; that I was sacrificing the labour of years; I might also be accused of vacillation: yet every consideration gave way under the strong conviction I felt, that what I have done ought to be done by me, knowing the facts as I did.

98. How far do you think this second sort of Bude light applicable to the general purposes of lighting the metropolis?—For street lighting, it is more calculated for crossings; it is applicable to every domestic lighting, where more light than 20 ordinary wax candles is required in a room; where a smaller quantity of light is only required, I do not think it is worth consideration.

99. It would not pay itself?—No; in churches, for instance, many self-evident advantages attend its use. Clapham Church, which is a large church, is lit by one central light, and only one; it ventilates the church. St. Mary's, Spitalfields, is lit by one central light in the same way. Christchurch is lit by two, like this House; and it is found in all cases where they can substitute one light for a great number of lights, there appears to be a corresponding economy; the larger, the greater the economy, provided those principles which I have before stated are properly carried out.

100. Mr. *W. Hamilton.*] Is the apparatus for purifying gas expensive?—Not at all; it is scarcely worth while to use it where you can carry off the products of combustion, the saving in expense effected by it is only about five to six per cent.; yet in close rooms it is very desirable to have it so treated.

101. *Chairman.*] How is the heat generated by this lamp carried out of the House?—Every light in the House of Commons has a tube, which carries it out into the open air.

102. The radiation of heat from the lamp itself is not great?—It is not so great as in ordinary burners, in proportion to the quantity of light; in proportion to the quantity of light, it is less.

103. One principal advantage in your plan is, that the whole of the flame is luminous?—The whole of the flame gives out light, or rather the whole of the combustible element gives out light; there is no portion of it burned to produce the first heat required for separation, as in ordinary cases; that is, for the separation, and ignition, of the free particles of carbon.

104. The light now in use is generally known amongst scientific men as the Atmospheric Bude Light, is it not?—It is.

105. Has any other person but yourself used that plan for obtaining increased light by the combustion of the gas from the time that it issues from the jets?—Not to my knowledge; I believe experiments have been frequently made to increase the size of Argand burners, and possibly concentric rings may have been tried, but not, I conceive, so as to bring about those peculiar points; certainly none have ever been in use for lighting. In every case that I have heard of a large Argand gas-burner, it has failed, in consequence of excess of atmospheric air; for if you burn it in the ordinary way with a glass chimney, the excess of atmospheric air is so great that it destroys a great portion of light, and produces a corresponding increased quantity of heat. In the lighthouses there is an oil lamp in use, which is called the Polyzonal Lens Lamp; it has concentric wicks, and was contrived, I believe, by Arago, for Sir David Brewster's invention of the Polyzonal Lens, and used by Fresnel first in the French lighthouses; it is commonly called Fresnel's Polyzonal Lens Lamp. That light came under my investigation at the Trinity House in 1835. I saw the great difficulties arising from want of definite proportions of air and oil; at best for practical purposes they only obtained a light equal to nine Argands, at an expense of oil equal to 17; so that light from the concentric oil Argand lamp, is nearly double the expense of the ordinary light from Argand burners. Seeing this mode of burning oil was so expensive, I was led further at this time into my inquiry of 1822; those principles I have just detailed are the results of nearly 20 years' observation and experiment from time to time.

106. In your present plan I think you have three concentric rings through

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which the gas issues?—There are four in the House; there are three generally. It depends upon the size and quality of light required. At the Rolls Church in Chancery-lane there are five concentric rings; in those cases the concentric rings must be made of given thicknesses of metal, so as to carry out the principle of conduction and radiation of heat.

107. And that has been determined by experiment?—That has been so determined.

108. Do you find that by using several circles of flame in that way, the light of one is obscured by the other?—No. This question, I believe, has remained unsettled to the present day; namely, whether or not there is any light lost by passing through flame. Practically it is so trifling that is not worth notice. From the experiments I have made, and which are detailed in the evidence I gave before the Committee in 1839, it is certainly very little.

109. Mr. *W. Hamilton.*] Do the distances of these concentric rings increase or diminish as they are more remote from the centre?—They increase.

110. *Chairman.*] Is there any means by which you could increase the light if required?—Yes.

111. By what means?—By lowering or elevating the apparatus for bringing in the atmospheric air; and increasing a corresponding quantity of the combustible.

112. Increasing the supply of gas?—Yes; taking care the proportions are definite.

113. Would that be done by the enlargement of the apertures?—No; by opening the stop-cock on the one hand, and raising or lowering the chimney on the other.

114. You can regulate those with perfect accuracy?—Yes, in fact they regulate themselves when once fixed. The light in the House might be much increased if desirable; but I have never done it, because the contract is fixed and the House satisfied, and possibly if I increase it, too much light would have been complained of.

115. If it should now be required to light the House from the roof, as was originally attempted, there would be no objection to it on account of the expense?—There would be no objection now on account of expense; the expense of the present light being so very little.

116. Mr. *Gally Knight.*] What proportion does the light which is at present communicated to the House by the Bude light bear to the light which was communicated by the candles; is it more or less lighted now?—The quantity of light at present in the House is very much greater, there is still a large proportion of the light, given by the burner, prevented coming into the House by the large sheets of ground glass which surround it. The quantity of light that comes into the House I have never measured, but the quantity of light given from the burners themselves I have measured, and know exactly the quantity of that light.

117. But you still consider that the quantity of light that comes into the House, is greater than was previously communicated by the candles?—Yes; but being more generally diffused, it does not appear so much as it really is; I think it is nearly double the quantity.

118. In spite of the ground glass?—In spite of the ground glass.

119. It does not appear so?—Nothing is so deceptive as the eye as a test of light without a comparative standard.

120. *Chairman.*] Without going into any calculation of the comparative power of your light, and that of a given number of candles, can you place before us, in any way, a comparison of the expense at which the House is now lighted, and that of candles under the old system?—I have no means of doing this, except by referring to an official return made to the House, the 2d of August 1838; in the return which I hold in my hand, candles are stated to be 6*l.* 0*s.* 9*d.* per night.

121. Is that for the House alone?—That is for the House alone; oil lamps were used in the libraries, division-rooms, passages, and lobbies; this room has been built and added lately to the House. I believe 64 oil lamps were superseded by my lights. The expense of the wax composition candles and oil lamps, supposing 64 to be used, will stand thus:—

	£.	s.	d.
Candles 6*l.* 0*s.* 9*d.* per night, or per Session of 150 days -	905	12	6
64 oil lamps, as contracted for, at 1*s.* each, 3*l.* 4*s.* per night, or per Session of 150 days - - - - - - - -	480	–	–
Making together - - - - £.	1,385	12	6

per Session, exclusive of attendants, which I have no means of estimating. I have no means either of knowing what ought to be deducted from this account for unburnt candles, or contingencies of shorter Sessions; I am supposing the average duration, as furnished by the Serjeant-at-arms, of 150 days. My contract for the whole is 450*l.* supposing a full Session.

122. Mr. *W. Hamilton.*] Does that include the cost of the street-gas?—It includes everything, men's time and everything.

123. Mr. *Gally Knight.*] Do you suppose that the system could be safely entrusted to the common attendants, without the constant superintendence of some scientific person like yourself?—I think it could.

124. Do you mean to say you could deliver it over into their hands and go about your business, and expect that the House would be lighted well and properly?—I could.

125. *Chairman.*] Have you a foreman now in your employ?—I have; he is in constant attendance, and reports to me every night when I am not at the House.

126. Mr. *W. Hamilton.*] Do you inspect the apparatus every day?—No; every week every light is taken down and examined.

127. Mr. *Gally Knight.*] Do you think it would go on without such inspection?—I have inspected the lights for three Sessions, and have found nothing material to be done.

128. But you do not think it would be prudent to go on without some scientific inspection?—I think some person of responsibility should be appointed to inspect them.

129. How often?—Once a week, at least.

130. Then it would seem to require the occasional superintendence of a scientific person?—I think it would be very desirable; I do not say it would be necessary. I have felt myself under great responsibility in a new subject, and have been, therefore, constantly in attendance, either within the House or within call.

131. *Chairman.*] In your calculation of the expense of the wax candles used, do you refer merely to the wax candles that were consumed in the body of the House itself?—Only in the body of the House; in my estimate I have supposed fresh candles are put in every night.

132. You refer merely to the body of the House?—To the body of the House.

133. And not to the number of candles that even at that time were consumed in the Committee-rooms, libraries, and so on?—I do not; I have no means of ascertaining that.

134. Have you seen the petition which has been laid before the Committee this day?—I have heard it read.

135. Had you previously seen it?—No.

136. Mr. *Gally Knight.*] Do you wish to have further time to consider it?—No; I wish that the merits of that petition should be inquired into. I am satisfied there is some mistake regarding the claim; I think the party is in error respecting the original discovery of the light.

137. Merely from having heard it read once over, you can take upon yourself to deny the justice of the claim?—Certainly.

138. *Chairman.*] You heard that petition read?—I did.

139. Does it appear to you that the allegations of that petition have any bearing upon the plan now in use in the House of Commons?—None whatever, upon the present plan of lighting the House; nor do I think they will be found to bear on the original oxygen light.

140. What was the comparative expense of the first experiment with the oxygen, and the second with atmospheric air?—The difference of expense between the pure oxygen light and the atmospheric light is in the ratio of three seven-tenths to 27, nearly.

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141. Is it as seven to one?—Yes, nearly.

142. Mr. *W. Hamilton.*] That is the difference between using oxygen and atmospheric air?—Yes, producing equal lights.

143. *Chairman.*] Then the oxygen must have been more expensive than candles?—I have taken the manganese, in this estimate of comparative cost, at 7 *l.* to 8 *l.* a ton; 7 *l.* as an average price.

144. Mr. *Gally Knight.*] You say the expense of doing it in the way you do it at present is 450 *l.* a year, and that the present light is seven to one cheaper; then are we to multiply 450 *l.* by seven?—No; you must consider in the 450 *l.* the services of two men, contingencies, &c. Extra men were retained in case of need; yet, including all, the expense was not so great as 450 *l.*, and I shall be happy to continue the contract for the next 20 years to come, if it is desired, at the same price. I think the expense last year fell short by 60 *l.* to 70 *l.*

145. Including your own attendance?—No, that has never been considered.

146. But should you be content to take it for a term of years at that rate?—Not to take the responsibility; I have no objection to supply the materials, and attendants, &c. at that price.

147. *Chairman.*] When you speak of expense, you mean the mere outlay?—Yes.

148. Mr. *Gally Knight.*] Then oxygen would have been nearly six times that sum?—It would have been nearer seven times the expense, light for light.

149. *Committee.*] What was the actual cost during the time that experiment was in operation?—I cannot tell without reference to accounts; I can give the comparative expense of wax candles and the present light. For the old light manganese was bought in small quantities, and at a very heavy price. I think you cannot make a comparative estimate, taking the expense of that Session as data; we frequently gave 16 *l.* a ton for manganese. The ratio I have given, seven to one, is supposing in both cases a naked light, and manganese to cost 7 *l.* a ton.

150. What would it come to, reckoning manganese from 6 *l.* to 8 *l.* a ton?—The expense of one would be seven times more than the other.

151. At that price?—If manganese could be had at that price.

152. Mr. *Borthwick.*] Is there any difference in the price of manganese at present?—Best manganese, I believe, is now from 11 *l.* to 12 *l.* a ton in London.

153. Then it was only 7 *l.*?—I have taken this price as an average price; as in the following estimate I have taken composition candles at 1 *s.* 10 *d.* a pound; I have taken sperm oil at 7 *s.* 6 *d.* a gallon, gas 9 *s.* 1,000 cubic feet, and common oil at 3 *s.* 6 *d.* a gallon; taking these as the average prices, being the ordinary materials of lights used for domestic purposes, the relative cost will stand thus, to produce equal light:—

Wax	41
Composition candles	33
Sperm oil	20.3
Gas	7.2
Common oil	11.3
Atmospheric Bude	3.7

These numbers are a very close approximation.

154. Three seven-tenths is accurate?—Yes; that is the mean of a number of experiments.

155. Then give the Committee what it would have been with the oxygen?—Twenty-seven.

156. Equal to sperm oil?—If I gave 27, I gave a wrong number; oil should be 20.

157. At three seven-tenths?—Yes.

158. Oxygen?—Twenty-seven, oxygen; best sperm, in round numbers, 20; street gas, 7; and common oil, 10: the atmospheric Bude, three seven-tenths.

159. Mr. *Gally Knight.*] You make oxygen still less than wax candles?—Yes.

160. Mr. *Borthwick.*] We should have to pay for manganese now at 11 *l.* or 12 *l.*?—Unless you buy it in quantities.

161. Mr. *Rundle.*] You do not want the best manganese, do you?—The best is the cheapest, I think; from Wales, very good might be got for the purpose, cheaper.

162. Mr. *Gally Knight.*] Upon the whole, do you admit then that upon the system

system adopted in the first experiment, that mode of lighting the House was even dearer than our old mode of lighting it by candles?—No; it was cheaper in the ratio of 27 to 33, provided you could have had manganese at 7*l.* a ton.

163. You were understood before to say, the expense of the first experiments was frightful, and that they were dearer than the old mode of lighting the House, but you say now it was not so dear?—The frightful expense I alluded to, was that of the immense quantity of light lost in bringing in a given quantity through the large field of ground glass on the sloping roof; we should have been obliged to have five times the amount of light to bring through that glass that we should otherwise have required.

164. In making the comparison, do you refer to lighting the whole roof or merely to the seven centres on each side?—In making the original observation, it was supposing that the whole of the ground glass sloping roof was to be lighted, and that the light was to pass through that extensive field.

165. Then in that experiment, of course the consumption of oxygen gas was much greater than when you merely give light through these centres?—It would require at least five to six times the quantity to bring the same quantity of light into the House.

166. *Chairman.*] How do you account for the great saving in comparing the present light with the use of street-gas?—By the peculiar arrangement in the mode of producing it.

167. Mr. *W. Hamilton.*] You mean the intensity of light is greater?—The quantity is greater.

168. *Chairman.*] And the consumption of gas less?—Yes.

169. That difference consists chiefly in the quantity of gas consumed?—Yes; from the results of a long series of experiments which I have made myself, and taking the mean of those which have been made by others, I think the ratio of saving by this mode, at the least, may fairly be stated to be from 44 to 46 per cent. when the burners are perfect.

Jovis, 5° die Maii, 1842.

PRESENT.

Mr. Borthwick.	Mr. Pendarves.
Mr. Gally Knight.	Mr. Rundle.
Mr. Parker.	

SIR CHARLES LEMON, BART. IN THE CHAIR.

Andrew Ure, Esq. M.D., F.R.S. called in; and Examined.

170. *Chairman.*] I THINK you were examined before the Committee in 1839?—I was.

171. Have you any knowledge of what Mr. Gurney has done since that, in carrying out his experiments?—Yes, I have.

172. Are you aware that he has abandoned the use of oxygen gas, and that he now uses atmospheric air only?—Quite so.

173. Are you acquainted with the principle upon which that is applied?—Very well.

174. Does that principle involve details not used by any other person?—I think so.

175. Are you aware that Mr. Gurney took out a patent in the year 1839?—I have read the specification of a patent for this newest light that he employs: I have read that specification. I do not know what date that is.

176. That relates to the second patent?—Yes.

177. You are aware that he has now taken out a patent with respect to the plan of light he uses at present?—Quite so. I read that specification with care;

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care; it describes the mode which he employs for lighting, called his new Bude light.

178. And that patent is in direct connexion with the plan now in use?—It is descriptive of the plan which he now uses.

179. Have you ever seen the House since it has been lighted according to the present plan?—I am sorry to say that I have not.

180. Then you can give no opinion as to its being sufficiently lighted?—I really cannot; I am ashamed of not having gone to see it.

181. Do you know that it is a part of Mr. Gurney's plan to heat the gas before it issues from the apertures, so that it is rendered luminous through the whole space of its combustion?—He has told me he is accustomed to heat it before it comes out of the apertures; but it is not my opinion that that previous heating is at all so advantageous as the peculiar mode in which the combustion is effected after it comes out of the pin-holes or apertures. We may differ in theory upon that head, but I believe the effective advantage of his burner is not from any heating previous to its issuing from those apertures, but from the mode in which the gas is burned after so issuing.*

182. Will you be good enough to describe the mode by which this increased effect is produced?—Mr. Gurney's new patent burner consists of a flame produced by the gas issuing from two or more concentric series of holes, by which means the interior series, reacting upon the exterior series of flames, produces a reciprocal augmentation of temperature, and thereby an increased light, somewhat proportional to the augmented ignition.

183. Is it your opinion, then, that the increase of temperature produces a more perfect combustion?—I must give you a detailed explanation of my opinion upon this head, and it is this: the peculiar nature of the combustion of gas requires to be considered. In the burning of coal-gas, and of all kinds of carbureted hydrogen, the white light is produced by the ignition of the solid particles of carbon precipitated first of all in the interior of the flame, for the hydrogen burns first, from its greater affinity to oxygen; and after it is partially burned, the carbon which was formerly combined with it, and as it were in a state of solution, is precipitated in solid particles, as Sir Humphrey Davy showed long ago; and these solid particles getting highly ignited, produce the white flame. Carbon, as long as it is in solution in the hydrogen, and if it be all burned simultaneously with that hydrogen, burns with a faint blue light. Now, in the common gas-burner, there is an excess of atmospherical oxygen gets access to the coal-gas at the origin of the flame, or near the pin-holes; that excess of atmospherical oxygen burns a good deal of the carbon in its gaseous state, before it is precipitated; and, moreover, that excess of atmospherical oxygen serves to chill the flame; from which two causes combined, there is a space of about three-quarters of an inch in the common Argand burner, towards the base of the flame, which gives very little light, but which evolves much heat. Now, in Mr. Gurney's compound burner, that prejudicial excess of atmospherical oxygen cannot get access, and is not allowed to act, whereby the carbon is more plentifully deposited in the interior of the flame, while the temperature of the flame is not so much chilled; and from these two causes combined, great increase of light is produced.

184. And Mr. Gurney's plan decidedly favours the combustion, with the view you have now given?—Quite so; it favours the development of light from the combustion of coal-gas.

185. By increasing the temperature, and by limiting the supply of atmospheric air?—That is exactly my view of it.

186. Are you aware of any other person who has acted upon that plan in the construction of lamps?—Will you allow me to make one observation illustrative of the above theory in which I refer to the fact long known, that the light of two small candles, when the flames are brought into contact, is greater than the light of the two flames separate. Take two candles with small flames, and make them burn in contact, and they will give more light than when the candles burn apart. The flames must be small, otherwise there will not be by the junction of the two the access of a sufficient quantity of oxygen to prevent perfect combustion. The fact is manifest, because a person will be able to read further

* Coal-gas, passed through a hot tube, deposits carbon, and has its luminous quality thereby impaired.—*A. U.*

further off with the two flames in contact than when they are separate. Now Mr. Gurney's is a compound flame of this kind.

187. Are you aware of any other person who has acted upon that plan in the construction of lamps?—I am not; I do not believe it.

188. So far then you believe his plan to be original?—I think so.

189. Founded on an original principle discovered by himself?—Founded on sound philosophical principles.

190. On a principle which had never been found out before?—Never, never brought to practice before.

191. This plan then is likely to increase the quantity of light, is it not likely also to reduce the consumption of gas, according to a given proportion of light?—I have measured the cost of illumination by this compound burner of Mr. Gurney's, with the cost of illumination from a common Argand burner, and I find there is an economy of illumination in Mr. Gurney's equal to one-half, or in the proportion of two to one: I am sure of that.

192. And you account for that economy by the different combustion of the carbon in the gas?—Just so; upon the principles above stated.

193. Are you aware of any other person who has endeavoured to effect a saving by the same means?—No, I am not; not the same kind of burner; I never saw it, or heard of it.

194. Do you consider that any considerable portion of light from a luminous body is intercepted by passing through flame?—That is a point that I have considered; I think not much; it is very difficult to measure it.

195. So that you have nearly the same quantity of light, whether two lamps are placed one behind the other, or by the side of each other?—I think, very nearly.

196. Are you aware of any objections to the plan now in use by Mr. Gurney?—Not the least; I think, on the contrary, it has many other advantages which I have not stated.

197. Do you happen to remember a paper written by Mr. Leithead on the use of oxygen in an oil-lamp, which paper was read at Liverpool by Dr. Lardner in 1839?—No; I was not present, and I do not remember that paper at all.

198. Are you acquainted with the process by which Mr. Gurney purifies the gas?—I am.

199. Do you consider it is effectual?—Yes, it is effectual; I think, speaking humbly, that it is susceptible of improvement. I do not think there is any direct plan employed by Mr. Gurney, as far as I recollect, to take out the ammonia; the quantity of ammonia in the London coal-gas is very considerable, and I believe it impairs the light to the amount of one-tenth. It is a very strange thing that ammonia should be allowed to exist in coal-gas after so many years experimenting. I have now erected an apparatus for abstracting the ammonia in one of the greatest gas works in this city—the Imperial Gas Works—which is effectual, and it is about to be established on a greater scale; it is by a method peculiar to myself. Another method has been lately adopted, under a patent of Mr. Croll, for effecting the same object, which is also effectual, whereby the light is considerably improved, from the same quantity of gas.

200. Is Mr. Gurney's an expensive process?—Very cheap.

201. Then you do not hesitate to say the increased quantity of light is more than a compensation for any expense in purifying the gas?—I consider that the expense of purification is so trifling as not to be worthy to be taken into account.

202. In looking at the whole of Mr. Gurney's plan in all its different processes, do you not think its success must have been the result of long and patient investigation?—Very much so; I know it has.

203. Does it not depend on the nice adaptation of means in certain proportions, which could not have been ascertained except by a long course of experiment?—Surely.

204. Do you think that the increased heat, to which you alluded just now, is likely to be injurious to those who sit in the House?—On the contrary, I think that by Mr. Gurney getting a double light from the same quantity of gas, he reduces the heat in the same proportion; that is to say, he has only half the heat with the same quantity of light.

Andrew Ure, Esq. M. D., F. R. S.

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205. Do you think that the means provided for carrying off that heat are sufficient?—I think Mr. Gurney's invention is peculiarly favourable for carrying off the heat generated by the combustion of coal-gas.

206. Do you apprehend any danger, either to the apparatus or the House, from the use of this gas?—None whatever.

207. Even though heated in the way you speak of?—Even so heated.

208. Do you apprehend any danger from explosion?—None whatever.

209. Am I correct therefore, on the whole, in describing the present plan as one involving much of original invention, as well as an ingenious adaptation of expedients not before in use?—Certainly.

210. Have you ever made any experiments on the comparative expense of lighting by different means?—I have made very many.

211. Are you aware of any other process by which a given quantity of light for a large apartment can be obtained at less expense?—I know of none; I have seen none whereby the same light can be produced, unless at double the expense.

212. When you speak of double the expense, you mean comparing it with the ordinary gas burned in the common way?—Just so.

213. Are you aware what are the usual terms of remuneration to scientific men for inventions and services of public utility?—Why, I think if a gentleman of science, like Mr. Gurney, has employed his whole time irksomely, as he has done, that he could not have less than about 1,000*l.* a year.

214. Are you in possession of any instances in which services of this kind have been actually compensated?—Yes, I could refer to myself; though, perhaps, it is not a very good case. I was employed for two years by the Board of Trade in making experiments upon sugar refining, to determine the relation which ought to exist between the drawbacks on refined sugar and the duty paid on raw, and I received at about the rate of 500*l.* a year: that was for making very painful experiments for two years, but I did not think myself suitably paid; however, I said nothing about it.

215. Are you in any public employment at present?—I am not in any public employment; I employ myself as a consulting and analytical chemist.

216. But you are not in the service of Government?—No; except that I do almost all the work for the Custom-house, and have done so for many years.

217. Mr. *Rundle.*] Does the use of chimney-glasses occasion an economy in the burning of common gas?—It depends on the mode in which the chimney is applied; a chimney may be made to increase or diminish the light. The prejudicial effect of an excess of oxygen is beautifully shown by sending up a stream of oxygen within the flame of a common gas-burner, whereby you nearly annihilate the light by burning the carbon in its gaseous state, and by preventing the previous precipitation of it in a solid state, and ignition of those solid particles.

218. *Chairman.*] So the combustion of the carbon, then, is a double process?—A double process, and Mr. Gurney's burner is favourable to that double process.

219. It is first precipitated and then consumed?—Then ignited and consumed.

220. Do you happen to have remarked the lamp in Waterloo-place?—I have, several times.

221. Did you ever compare the light of that with the light of the ordinary burners in the street?—I did not compare that light, but I compared a similar light in an office in No. 6, Waterloo-place, very carefully with a common Argand burner, as also with a wax candle three to the pound, which I had used three years ago in my experiments, made prior to my examination before the Committee sitting at that time to inquire into the best mode of lighting the House of Commons, and I found from these experiments that Mr. Gurney's burner gave at least double the light with the same consumption of gas as was obtained from a common Argand burner.

Charles Wheatstone, Esq. F.R.S., called in; and Examined.

C. Wheatstone, Esq. F.R.S.

222. *Chairman.*] YOU were examined before the Committee in 1839, were you not?—I was.

223. Have you seen any reason to alter your opinion with regard to any part of the evidence you gave at that time?—No.

224. Have

224. Have you at all carried on your knowledge of Mr. Gurney's modifications of his plan since that time?—I have no farther knowledge than that which I arrived at by some experiments made last Saturday week in the crypt of the House.

225. At whose suggestion were those experiments made?—At Mr. Gurney's.

226. What were those experiments?—Merely some photometric experiments to compare a wax candle, a common gas-light, and Mr. Gurney's Atmospheric Bude light, regarding the relative intensity of light they would give.

227. The ordinary gas-burner?—Yes, an ordinary Argand gas-burner.

228. What was the result of that experiment?—The wax candle had a Smyrna wick, and three weighed one pound. The gas-light had an Argand burner, with 12 holes, and was supplied with unpurified street gas. The Atmospheric Bude light had three concentric flames, and was supplied with the street gas, purified by Mr. Gurney's process. The Bude light was equal to 68.39 wax candles, and consumed 10.04 cubic inches per second, or 20.92 cubic feet per hour. The gas-light was equal to 10.36 wax candles, and consumed 27.7 cubic inches per second, or 5.78 cubic feet per hour. The Bude light consumed not quite four times the quantity of gas which the common gas-light did, whilst the light given by it was above 6 ½ times more intense. The ultimate result of these experiments was, that the Bude light consumed for every unit of light (equal to one wax candle) 525.6 cubic inches per hour, and the gas-light 900 cubic inches per hour, giving an economical advantage of the Bude light over the gas-light of very nearly double.

229. The conclusion to which you come then is, that the power of the light, in proportion to the quantity of gas used, is as about two to one?—Very nearly; it comes a little short of that.

230. Have you ever observed the lamp in Waterloo-place?—I have, and have made a few rough experiments with that light; that is, as comparing it with the lights in the neighbourhood.

231. What is your opinion with regard to the power of that lamp as compared with the ordinary street-lamp?—I measured with the photometer the Bude light against three of the nearest gas-lamps in the neighbourhood. Compared with the gas-lamp at the north-east corner of Waterloo-place, it was equal to 47.19 compared with the one opposite to the door of the Atheneum Club, it was equal to 44.44, and compared with that on the north side of Pall Mall, it was equal to 43.76. The mean of these experiments give, that the light of the Bude light was equal to about 45 of the lamps in the neighbourhood, but I know nothing with regard to the consumption of gas in either of the cases, nor with regard to the absolute intensity of the lights. The maximum was 47, and the least was 43 or nearer 44.

232. And do you conceive those numbers to be a pretty fair index of the power of this light, as compared with a single light?—I have reason to believe the lights in the neighbourhood of Waterloo-place are not supplied with so much gas as elsewhere.

233. Are you aware of any expenses connected with this lamp more than there are when the gas is consumed in the ordinary way?—It appears to me there is nothing but the apparatus for purifying the gas, which seems to be very simple.

234. That is not a very expensive one?—I should think not.

235. In the course of your experience, have you ever met with any other lamps than those constructed by Mr. Gurney, upon this plan?—It is a subject I have not much attended to, but I have not seen any lights of the same kind.

236. Have you never made any calculations with regard to the comparative expense of this light?—It appears to me that as the light, with the same quantity of gas, is nearly double, the economical advantage is about the same, for the expense of the apparatus does not appear to be anything more.

237. Do you remain of the opinion which you were when you gave evidence before the Committee in 1839, that light proceeding from a single source, and properly dispersed, is a better mode of lighting a large building than by a number of sources dispersed all round that building?—I have had no reason whatever to change my opinion on that subject.

238. Mr. *Borthwick*.] That answer refers to the effect of the lighting, but has no reference whatever to the cost?—No; merely as to the intensity; merely as to the effect upon the eye.

Wm. Keene, Esq.

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William Keene, Esq. called in; and Examined.

239. *Chairman.*] I BELIEVE you have been Mr. Gurney's medical pupil?—I was, in 1822.

240. And you have witnessed a great many of Mr. Gurney's experiments?—A great many.

241. Do you at all know when he commenced those experiments?—In 1822; at the time I was with him he was actively employed on experiments with gas.

242. What experiments had he particularly on hand at that time?—On hydrogen gas and oxygen gas mixed; and particularly for examining coal gas, and the temperature at which it might be inflamed.

243. Did those experiments lead to his application of the principle of using oxygen gas and oil?—I think those experiments served him very greatly in bringing out the original Bude light of oxygen gas and oil; and also the present or Atmospheric Bude light.

244. Did you assist him in the experiments which he made at the Trinity House?—I did.

245. In what year was that?—In 1835, I think.

246. Was there not previous to that, in 1835, a course of experiments?—There was, and I assisted him at that time.

247. Have you observed or examined the lamp in Waterloo-place?—I have.

248. Are you at all aware what the comparative consumption of gas is there, and in an ordinary street-lamp?—I have kept a register of the consumption of gas in Waterloo-place for the last 17 days, and the average consumption passing through the meter has been 62 and 8-10ths cubic feet per hour. This result will surprise many persons, who supposed that it was consuming at least double, or as much as 140 cubic feet an hour. There had been a rumour abroad, given out by persons who have much weight in these matters, that the lamp in Waterloo-place was consuming 140 cubic feet an hour; a meter was therefore affixed, and its consumption verified. I assisted at the experiments of Professor Wheatstone in measuring the light in Waterloo-place, and its average was that of 45 of the surrounding street-lights; I have every reason to believe those experiments were correct.

249. Tell us the ratio of the consumption of gas?—From the experiments I have assisted at and made myself, I should say there is double the light produced from the same consumption of gas that is produced in the ordinary Argand gas-burner; that from 50 cubic feet of gas, there will be double the light produced from a Bude burner to what is obtained by consuming that quantity of gas in ordinary Argand burners. There is therefore an economy of one-half.

250. You have said that that light consumes 62 feet in an hour?—Yes.

251. What is the common consumption of an ordinary street-lamp?—About five feet per hour.

252. It consumes about 13 times as much as the ordinary street-lamp?—Yes.

253. And produces an effect equal to 45?—Yes.

254. Mr. *Borthwick.*] It consumes 62 and 8-10ths, and produces 45 times as much light?—Yes, of such as are now burning in Regent-street.

255. And each of these street-lamps consumes five?—They should consume five; I doubt whether they were consuming five at the time of our measurement. We had no means at that moment of knowing the consumption of those lights.

256. The general result, then, is, that suppose the common street-burners, using the common street-gas, were supplied with 62 and 8-10ths per hour, they would produce, as nearly as might be, one-half of the light that that produces?—In this case only one-third; but I have taken another mode of comparison, which may be understood by every person: I find that the power of the lamp in Waterloo-place will light a ground area of 10,000 square yards, without any other light being required about it; and that at the extremity of the square the light would be equal to that which is obtained from an ordinary gas-light.

257. *Chairman.*] At what distance?—At 30 feet from the gas-light. The light near the column would be very far superior to any light that is obtained from an ordinary gas-light.

258. You mean the light near the column would be superior to the light of an ordinary street-lamp 30 feet off?—Near the column of an ordinary street-lamp.

259. Mr.

259. Mr. *Borthwick.*] The light at the extremity of your square would be equal to the light of a common street-lamp 30 feet from the lamp?—Yes, but the light near to the lamp in Waterloo-place is far superior to that near an ordinary gas-lamp.

260. *Chairman.*] So that a person standing at that column would be able to read better by the light in Waterloo-place than by any of the lamps close to it?—You can read the leading article in a London newspaper 50 feet from the column in Waterloo-place better than you can at a distance of 10 feet from an ordinary gas-column. The Waterloo-place lamp lights a cubical space, in which you can see to read with ease, equal to 400,000 cubic feet; and the street lamp only lights a space of 8,000 cubic feet in which you can see to read readily. The ratio of the power judged in this way is 1 to 50.

261. I think you have been residing in France?—I have, a great deal.

262. Have you at all given your attention to the mode of lighting on the Continent?—I have, and have directed the erection of gas-works there.

263. Do you find anything on the Continent at all equal to what you see here?—Nothing at all comparable to what Mr. Gurney is now doing, and has done. I have seen many attempts on the Continent, which have been unsuccessful; one particularly, an attempt at the oxygen Bude light, by M. Gaudin, at Paris. This I believe was approved of by M. Arago, who took much interest in its success. M. Gaudin also proposed to light Paris by the lime light, which was an invention of Mr. Gurney's in 1822 when I was with him. M. Gaudin seemed to claim the invention of lighting by the lime light, and being in Paris I addressed the Institute, claiming for Mr. Gurney the priority of the invention. I saw both M. Arago and M. Becquerel on the subject; M. Arago attributed the invention to Lieut. Drummond, but I had with me the volume of Mr. Gurney's lectures, printed in 1823, which I showed to M. Arago, and believe I satisfied him of the priority of Mr. Gurney's claim.

264. Did this pass at a public meeting of the Institute?—I addressed a letter to the Institute, which was read at a public meeting.

265. Were you present at the time that was read?—I was not; I was absent from Paris, and in the south of France.

266. Did you hear of any discussion that took place in consequence of it?—A discussion did take place.

267. What was the result of that discussion?—It was referred to a committee of the Institute, and it was in reference to its being sent to the committee that I addressed M. Arago, and M. Becquerel, on my arrival in Paris, upon the subject; and I showed the light; I had an apparatus for producing the light, which I had three or four years previously exhibited to the Academy of Bordeaux, of which I have the honour of being a member, and I exhibited it on this occasion.

268. Did your memorial apply to the ordinary Bude light, the olio-oxygenous burner?—It did not; I had not at the time I addressed the Institute, seen in Paris any attempt to produce the olio-oxygenous light; it was some two months afterwards that an attempt was made.

269. Then the discussion of the Institute referred merely to what is called the lime light?—Yes.

270. Mr. *Borthwick.*] M. Gaudin's attempts failed?—They were not satisfactory.

271. Was it tried in any public place?—At the corner of the Rue de la Paix for some time, and afterwards discontinued.

272. At what time was that?—In 1838; January 1838.

273. And there has been no succeeding attempt?—None, that I am aware of; I believe that the light of M. Gaudin was put up in imitation of Mr. Gurney's light, with the knowledge of what was doing in England at that time; I do not believe it was original.

274. *Chairman.*] There is nothing more unmanageable, is there, with regard to the use of gas on Mr. Gurney's plan, than in the common burner?—Nothing more, it is quite as simple as the ordinary burner; but without the arrangements which Mr. Gurney has perfected I think there is nothing more unmanageable and wasteful than to burn any large quantity of gas in the ordinary way. It requires all the arrangements Mr. Gurney has perfected to enable any large quantity of gas to be burned effectually and economically.

275. To bring those arrangements to perfection, was it necessary for him to carry on a long series of experiments?—No doubt of it.

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276. And does that success depend upon the nice adaptation of certain mechanical means that had not been perfected before?—It does; without that nice adaptation there must be waste both of gas and of light.

277. Are you aware of anybody else who has brought experiments on the the same subject, to the same issue?—I am not, but I have heard of attempts being made, all of which have been unsuccessful, and which I can readily conceive; I may add that I found on my arrival in England, and after considering this subject, that there were many prejudices against it. I heard it said that it was "a wasteful expenditure of gas." Knowing the general correctness of Mr. Gurney's experiments, and having followed them up for a long series of years, by Mr. Gurney's permission, I examined the whole arrangement very closely, and saw, that so far from its being a wasteful expenditure of gas, it was much more economical than small burners; I find from my own experiments, that the use of small burners is a wasteful expenditure of gas, for you may consume nearly two feet of gas an hour in a one jet burner, and not give more light than a standard wax candle, and by burning six feet in an Argand burner, you get a light of nine or ten wax candles; therefore the smaller the burner the more wasteful the expenditure of gas, and economy arises in the use of large burners.

278. Mr. *Borthwick.*] Does that arise from the circumstance, that in small burners, a given proportion of gas is wasted in producing heat?—It does, as Dr. Ure has so well explained; I perfectly agree with Dr. Ure, in the explanation he has given.

279. *Chairman.*] You are acquainted with all the details of Mr. Gurney's plan?—I am.

280. You are acquainted then with his mode of purifying the gas?—I am.

281. Is there any provision there made to absorb the ammonia?—There is, one which I believe is only known to myself and Mr. Gurney, which does it very effectually. However well gas may be purified at the gas stations, it necessarily re-absorbs certain impurities in its passage along the pipes. I, therefore, think there is great merit in Mr. Gurney's invention of putting the purifier as near as possible to the light where the gas is consumed, because, there he will get rid of whatever may have been re-absorbed by the gas in its passage up to the light.

282. Do you imagine then, that there is a sufficient quantity of ammonia left in the gas after it has undergone the purifying process, materially to interfere with the light?—I think there is.

283. That that purification is not sufficiently perfect?—It is not sufficiently perfect.

284. Mr. *Borthwick.*] Do you know the number of lights that are now in Old Palace-yard?—There are 26.

285. Is it your opinion, that a single light upon Mr. Gurney's plan would supersede those 26?—Not only supersede, but light Old Palace-yard much better.

286. You think it would be better lighted by one of Mr. Gurney's lights, than by the 26 common gas-lights that there are now?—It would be much better lit.

287. Can you give the Committee any idea as to the relative expense of that one light?—It would be about one-half the expense of the present lights.

288. You think that one light producing that superior efficiency, would cost only one-half of the existing lights?—There would be only one-half the nightly expenditure of gas.

289. Are you aware of its having been in contemplation, to provide a light similar to that in Waterloo-place for Buckingham Palace?—I am aware of it. I have now under my hand, an official plan of the Palace, upon which Mr. Gurney has consulted me, and it is proposed to put Bude lights in front of the Palace.

290. It is lighted now with common street-gas?—Yes.

291. And you think a proportional advantage would be derived to the public as far as regards expenditure, by putting one light similar to the Waterloo-place light, instead of those which are now there?—I should propose a more powerful light than the one in Waterloo-place.

292. But upon that principle?—Upon that principle. There would be as great a proportionate advantage as dispensing with the lights of Old Palace-yard. There is great economy in employing the Bude light for all large areas.

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293. Do you think the architectural appearance of Buckingham Palace would be improved by a single light, making the masses of shade better?—It would be very much improved.

294. It would improve the character of the place?—Very much. The place would be much better lit by one light than by many lights, which give an unequal light, for by the latter there is light immediately round the lantern, and a short distance beyond it it is darkness. The present mode of lighting cannot reach or well light the upper part of any building.

295. So that, in point of elegance, in point of utility, and in point of economy, Mr. Gurney's light would improve the lighting of that space?—Very much.

296. *Chairman.*] Were you in London at the time that the garden of Lansdowne House was lighted?—I was not.

297. In the course of your experiments with Mr. Gurney in 1822 and 1835, did you ever hear of Mr. Leithead's prosecuting inquiries of the same sort?—I might have heard of him, but I have no remembrance of his having done so.

298. Mr. *Borthwick.*] Has it occurred to you as to a locality in which to place this one light you speak of in Buckingham Palace?—I would place the principal light on the centre of the green, which would be a very good position, and I would put two lights in front of the arch.

299. *Chairman.*] Is the light in Waterloo-place the largest light to which you can refer us?—No; there are lights in London twice as powerful. I think the largest is in Clapham Church; the diameter of the light is 11 inches. It is a five-ring burner, and 11 inches is the diameter of the largest ring.

300. Mr. *Gally Knight.*] And does that single light light the whole church?—It lights the whole church very beautifully; so perfectly that you are able to see to read in the shadows, near the pillars.

301. *Chairman.*] And is it not painful to the persons sitting close to it?—Very much less so than the ordinary gas lighting.

302. Mr. *Borthwick.*] Is it suspended from the ceiling?—It is.

303. Mr. *Gally Knight.*] Can you say what is the proportionate expense of lighting the church in that way and lighting it in the ordinary mode?—About one-half for equal light.

304. *Chairman.*] Is there any other instance you can give us?—There are several lights at this moment preparing; but I do not think there are any larger than this.

305. Mr. *Gally Knight.*] Will you have the goodness to say what evidence you have to give with respect to the ratio of heat for equal quantities of light?—From the wax candle the proportion is as 16 and two-tenths, from oil 19 and five-tenths, from gas 37 and three-tenths, and from the Atmospheric Bude light 18 and six-tenths; the mean of a series of experiments very carefully made.

306. *Chairman.*] Is the heat generated by that lamp carried off by any process in the House of Commons?—It is.

307. Are those means sufficient?—Very effectual. The Atmospheric Bude light gives facilities for carrying off all products of combustion not possessed by any other mode of lighting. I may repeat, that I have examined the light most carefully, and it is now my intention, being satisfied of its great practical value, to introduce it on the Continent.

John Phipps, Esq. called in; and Examined.

John Phipps, Esq.

308. *Chairman.*] CAN you give us any account of the expense of lighting the House of Commons at different times?—I am not prepared with an account now.

309. Can you give us any accurate information with regard to the expense of lighting at any particular time?—I can give you the expense of lighting each oil lamp, which is 1*s.* per night.

310. Does that come within your department at the Woods and Forests?—The lighting of the staircases, passages, and committee-rooms, but not the House.

311. Do all the contracts for that pass through your hands?—Through the department.

312. What is the expense of each lamp, and of the whole of the lamps, in those parts of the House that come under your direction?—The expense of each lamp is 1 *s.* per night; but the total expense I am not able to say; but that information can be furnished by the department.

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313. Can you furnish the Committee with an account of the total expense of lighting such parts of the House as are in charge of the Woods and Forests, at different times?—Yes. (*The Witness was directed to furnish the account.*)

314. But your information does not extend to lighting the body of the House itself?—Not with wax candles.

315. In any other way?—No.

316. Then you can give no information with respect to the body of the House?—I cannot.

317. Not at any time?—Not at any time.

Neil Arnott, Esq. M. D. called in; and Examined.

Neil Arnott, Esq. M.D.

318. *Chairman.*] YOU were examined, were you not, by the Committee in 1839?—I was.

319. Have you made any observations upon the alterations which have been made in Mr. Gurney's plan since that time?—I had an opportunity a little while ago of comparing the degrees or quantities of light from his new lamp and from the common or single Argand burner. I went for the purpose of ascertaining in what proportion the light was increased by this new mode of using the gas, and I found that the larger lamp, which burnt five times as much gas as the smaller, gave eight times as much light.

320. Is the economy of the two plans about in the same ratio?—Yes; and therefore in favour, very much, of the larger burner.

321. In the proportion of five to eight?—Yes, or eight to five; there is eight times the quantity of light, and five times the quantity of gas; that was the average of two or three experiments I made.

322. Was this the result of your own experiments?—Yes, I came down, and had the opportunity of trying it at Mr. Gurney's chambers, in Waterloo-place. The apparatus was not quite what I should have liked; I was not able to compare the one burner with the other directly; they were not moveable, but were both fixed. I compared one first with a candle, and then the other with the same candle; and in that way I ascertained the relative proportions of light given from the two.

323. The result, then, of your experiment is, that there is a difference in the amount of light in the ratio of eight to five?—Yes.

324. Is the economy of the two plans about in the same proportion?—Yes; that is the measure, in fact, of the economy.

325. Were you present when some experiments were made in the crypt of this House, to which Professor Wheatstone has alluded?—No, I was not.

326. Have you made up your mind at all upon the principle upon which this increased quantity of light is obtained?—No; we cannot yet explain it completely on any known principle. It would appear, that the more intense combustion of the higher temperature has an influence upon the combustion, so as to produce more light with the same expenditure of gas.

327. Do you imagine that, according to the old plan, any portion of the gas passes off unconsumed?—Probably it does; but it is also possible that the quantity of light may be greater when the combustion takes place at a higher temperature. The different quantities of light obtained from a common Argand lamp, according to the shape of the glass, which causes the air to approach the flame in different ways, is a very remarkable fact.

328. Do you know whether any other person has arrived at the same result as Mr. Gurney?—I have not had the opportunity of hearing; my attention has not been given to the subject.

329. As far as your knowledge goes, then, this application is original on the part of Mr. Gurney?—I believe that the concentric flames have been used before.

330. Taking the whole effect, it is original, is it not?—The concentric flames are not new, those have been used very long—two or three wicks, one within another, and that is part of this plan; the proportion of the gas, and so on, I have not inquired into.

331. Mr. *Borthwick.*] But is that which we know by the name of the Atmospheric Bude light, original?—I do not profess to know what has been done in that way; I came for the single purpose of ascertaining whether there was an economy in burning the gas in this particular way.

332. *Chairman.*]

Neil Arnott, Esq. M.D.

5 May 1842.

332. *Chairman.*] The process by which that economy is obtained, is, as far as your knowledge goes, original, is it not?—I really cannot state an opinion upon it; I do know that concentric flames have been used before; I am not prepared to answer that question; it had not attracted my notice particularly.

333. You are not aware of anybody else who has succeeded in obtaining the increased quantity of light which Mr. Gurney's burners have obtained?—I am not, but if the fact were so, I should not have known it, because I have not inquired respecting it.

334. Do you know of any other person who has used the concentric rings, for the consumption of gas, besides Mr. Gurney?—I do not; but my impression is, that using the concentric rings is not a novelty.

335. Are you aware of any other person who has done that, without at the same time using oil?—I have a very old lamp, I think, among my apparatus—a chemical lamp—with two wicks in that way, in lieu of a furnace.

336. The question referred entirely to concentric rings for the consumption of gas?—I have never seen it; but I have heard that they had been used before.

John Bellamy, Esq. called in; and Examined.

John Bellamy, Esq.

337. *Chairman.*] CAN you furnish the Committee with any information as to the expense of lighting the House with candles?—I made a Return to the Office of Woods on the 10th of December 1839, when the expense appears to have been 463*l.* 17*s.* 3*d.* for lighting the interior of the House.

338. Mr. *Gally Knight.*] With composition candles?—With spermaceti candles.

339. *Chairman.*] That sum does not include the expense of lighting the library and passages?—No, the library is deducted.

340. What was the total amount, including all the candles used in different parts of the House?—£. 480. 18*s.* 6*d.*

341. Does that sum include the candles provided for the private use of the Speaker?—When the House was burnt down that allowance to the Speaker ceased.

342. Are you acquainted with a Return made to the House on the 16th of August 1838, relative to the consumption of candles?—Yes.

343. It is there stated, that there were 276 candles consumed?—Yes; there were 276 candles consumed at the moment when that Return was made, amounting to 6*l.* 0*s.* 9*d.*

344. Every night?—Yes; at the commencement of the Session there were only 150, the cost of which was 3*l.* 5*s.* 7½*d.*, making an increase in the latter part of the Session of 2*l.* 15*s.* 1½*d.* per night; and that, considering the Session to continue 26 weeks, would amount to 358*l.* 6*s.* 3*d.* increase upon the mode of lighting in the first part of the Session and the last, owing to the increased number of candles used.

345. If the House, during the whole Session, had been lit with 276 candles, what would have been the cost?—Rather more than 780*l.*

346. This does not include the candles used in the library and other parts of the House?—It relates to the interior of the House only.

347. Have you any means of informing the Committee what the total consumption of candles, per night, was in all parts of the House, together with the oil-lamps?—I have no knowledge whatever on that subject.

348. Was there any extra expense on account of the management of the candles?—None whatever, that I am aware of.

349. Was there, at the time that wax candles only were used, any charge for attendance which does not appear in the present account?—None whatever; the whole expense devolved upon me, I having a certain allowance for servants.

350. Is that same allowance continued?—That same allowance is continued now.

351. Without any deduction?—Without any deduction.

352. You say that during a part of the Session of 1838, 150 candles only were used in the House?—At the commencement of the Session there were only 150 candles used.

353. Was that number found to be insufficient?—Colonel Trench thought it insufficient, and at his suggestion the increase was made.

John Bellamy, Esq.

5 May 1842.

354. Mr. *Borthwick.*] Was Colonel Trench the only person who thought that number of candles insufficient?—I cannot tell; it was at his suggestion that the increase was made.

355. What would have been the expense for the Session, supposing the smaller number of candles only to have been used, upon the supposition of the session lasting for 26 weeks?—£.426. 8*s.*

356. Will you state to the Committee the total expense of candles used in the two last years, in which the House was lit with candles only?—From the 1st of April 1838 to the 1st of April 1839, the consumption was 447*l.* 14*s.* 9*d.* From the 1st of April 1839 to the 1st of April 1840, the consumption was 480*l.* 18*s.* 6*d.*

357. Can you tell how much of that expense in those two years, was incurred for the body of the House only?—I fear not; it would be difficult to do it.

358. Can you make any calculation or guess as to any former year?—Certainly not, as to any former year.

359. Are the wages of the men who attend to the oil-lamps, paid by you?—Not at all, and I have no knowledge of that expense.

360. What is the quantity of candles used now, per night?—I have no calculation per night, but I could give the amount for the last Session.

361. How much was that?—£.81. 18*s.*

362. Since that time a further economy of candles has been made, has there not by Mr. Gurney's lights being put into the libraries, and some of the committee-rooms?—Undoubtedly, to a great extent.

363. So that the probable expense for this Session, for the candles, will not reach that sum of 81*l.* 18*s.*?—I think the same number of candles are used in the different offices.

364. During the Session of 1839, was there not a certain time in which the House was lit from the roof, and not by the chandelier?—I believe it was.

365. Can you tell how long that interval lasted?—I have no data which will enable me to answer that question.

Goldsworthy Gurney, Esq. called in; and Examined.

G. Gurney, Esq.

366. *Chairman.*] IS there any statement in your former evidence which you would wish to correct?—There is a mis-statement in the contract price of oil-lamps, I think. I stated in my former evidence that the contract price of oil-lamps was 1*s.* 6*d.* per night; it is only 1*s.* each.

Jovis, 12° *die Maii*, 1842.

MEMBERS PRESENT.

Mr. Borthwick.	Mr. Gally Knight.
Sir George Clerk.	Mr. Pendarves.
Mr. Hamilton.	Mr. Rundle.

SIR CHARLES LEMON, BART. IN THE CHAIR.

John Phipps, Esq. called in; and further Examined.

John Phipps, Esq.

12 May 1842.

367. *Chairman.*] WHO orders the lights?—I believe they are ordered by the officer of the House or the chief clerks.

368. How many were there in the House, and in different parts connected with the House of Commons, in the year 1839?—About 165 lights.

369. Do you know how many there are now?—About 114.

370. Have you any return you can put in, showing the number of lights which were in use before Mr. Gurney's plan was brought into operation and since?—I have.

Vide Appendix (A.)

[*The same was delivered in.*]

371. The

John Phipps, Esq.

12 May 1842.

371. The Committee are to understand that 51 lamps have been discontinued in consequence of Mr. Gurney's lights being used in those situations?—Yes.

372. Are you aware of lights having been affixed in places where none existed previous to Mr. Gurney's plan being in use?—Yes; in the division lobby, the passages, and, I think, in committee-room No. 6.

373. Are the lights in the new situations supplied by Mr. Gurney?—Yes.

374. If Mr. Gurney's lights had not been used there, can you at all tell how many common lamps it would have been necessary to have had to have produced sufficient light?—I should think from 12 to 14.

375. Do the persons who contract for the lights contract with reference to a certain number of days, whether The House shall sit or not?—The lights are paid for only during the number of days The House is sitting.

376. Supposing The House should meet and break up before the lights are needed, does the contract come into operation then?—I believe not.

377. Have you any means of ascertaining, upon an average of Sessions, how many nights are actually paid for?—No, I have not.

378. Mr. *Hamilton.*] Is no account kept at the office of Woods and Forests of the number of nights?—Yes, and the number of lights; and the time is checked by the clerk of the works.

379. Mr. *Rundle.*] Can you tell during any Session how many nights were paid for?—I could by reference to the accounts at the office.

Goldsworthy Gurney, Esq. called in; and further Examined.

G. Gurney, Esq.

380. *Chairman.*] IT has been stated that there are certain situations in which your lights are now used which were not heretofore lighted; those rooms are an increase of accommodation for Members, which would, under the old system, have caused an addition to the returns made by Mr. Bellamy and Mr. Phipps; is that the case?—It is.

381. In giving your evidence on the comparative heat of the different lights, by what means did you ascertain the proportions?—I burnt the lights in a glass receiver, supplied with air by an air-pump; by this means, I was enabled to measure accurately the quantities of air passed through in a given time. The air escaped from the vessel through an opening into which a thermometer was placed; the quantity of air pumped in was regulated, to keep the escape at the temperature of 212 degrees. The air was pumped in at a temperature of 60°; it escaped at 212°. It was continued for an hour with each different light, and the quantity of air pumped in during that period, and heated to 212°, gave the quantity of heat given out by each light. A given quantity of light from wax candles raised 2,292 cubic feet of air from 60°, to 212°, in an hour; the same quantity of light from oil, 2,580; from Argand gas-burners, 5,568 cubic feet; and the same quantity from the Atmospheric Bude, 2,502. This book will express the proportions I have given. A series of experiments were afterwards made by the evaporation of water into steam; and also by raising water from the temperature of 60°, to 212°. The mean of all those experiments was found to agree, and by that means I arrived at the comparative quantity of heat given out by different lights.

382. Upon the whole you are satisfied of the accuracy of those experiments?—Perfectly.

383. In your former evidence you said that you had not made any change in the lights in the last two Sessions; are the Committee to understand that you have no fresh improvements to suggest?—During the last two Sessions a great number of improvements have suggested themselves, some very important; but I have not introduced them, because it was desired, as I stated in my last evidence, that the sense of The House should be taken on the present plan before any change was made.

384. You were restricted from making a change?—Yes; and a wish was expressed that the sense of The House should be taken as to the lights as they then were.

385. Had you felt yourself at liberty to make improvements, what object should you have had in view?—A greater separation of impurities in purification; an apparatus for regulating the brilliancy of the light, and for dispersing and reflecting the light more agreeably and profitably; another important

G. Gurney, Esq.

12 May 1842.

improvement, which I have shown to succeed by trial elsewhere, is to convert sensible into latent heat, by which means the heat of any apartment would not be affected by light.

386. Do you look forward to any important effect from those improvements?—I do; I consider that the system would be far more perfect than it is. In point of economy, perhaps, it is cheap enough already for practical purposes.

387. Did you ever make any experiments with naphtha?—I did in 1822.

388. Did you make experiments in The House with naphtha?—Yes; I used naphtha in the House of Commons during part of the Session of 1840.

389. What prevented your using it during the whole of the Session?—I found it inconvenient in practice; and that the advantages arising from it did not compensate me for the inconvenience attending it; it was attended, I thought, with some risk, being of an inflammable nature; I did not like to take the responsibility upon myself; and as I did not require it, I gave it up.

390. Was the smell a part of your reason?—The smell was complained of by Members; the smell of naphtha occasionally was perceivable in The House.

391. Was there any danger attending the use of naphtha?—There was no danger in the way I used it; if the vapour of naphtha should escape and mix with the atmosphere, it might become so.

392. Have you had any experience of accidents of that kind having occurred?—There was an accident of that kind in the South Foreland lighthouse; the vapour of naphtha escaped and mixed with the atmosphere of the lighthouse, and blew off the lantern; this was when it was first introduced by Professor Donovan, of Dublin, and fell to the management of inexperienced persons.

393. Was it for those combined reasons you discontinued the use of it?—I felt that there was no occasion for such material to be introduced into the House of Commons; by proper management it might be safe, but in the House of Commons, I thought the advantages of it did not warrant its use.

394. In the evidence of some of the gentlemen examined before the Committee, it appears that 45 times the quantity of light is given by your lamp in Waterloo-place, as compared with the street lamps adjacent, and that the consumption of gas is between 12 and 13 times as great; this would give a ratio of four to one, while the mean of the experiments in other places is as two to one?—The mean of the experiments given as two to one, were those made comparatively with the Argand gas-burner, which is the most economical of all gas-burners. In the street experiment, the bat's-wing burner was taken for comparison, which burning, as it did, four feet an hour, would most likely consume in the ratio of four times the quantity of gas of the Bude light, giving equal light; therefore the numbers, two to one, and four to one, are the relative proportions of the different burners used in making the calculations.

395. Why is the lamp at Waterloo-place put out at eleven o'clock at night?—I believe the person who lights it has instructions to put it out; he does not like to get up so early in the morning, and therefore he puts it out before he goes to bed; it is burnt to ascertain the actual expense; he registers it at eleven, and I suppose puts it out at that hour.

396. Mr. *Borthwick.*] At whose expense is it?—The consumption of gas in that burner is less than that required for the number of lights put out at the time it is burning; when the light is put out at eleven o'clock, the street gas-lamps are again lighted, therefore the expense of gas is diminished.

397. *Chairman.*] Would your lights be applicable, with economy, to other situations than those in which they are now placed in the House, and its purlieus?—There is no doubt of that; the saving of expense would be correspondent to the number of lights or wax candles superseded.

398. Would it be necessary to increase the establishment of persons in attendance?—There would be no necessity for much increase of attendance, or increase of establishment. I should observe, that in the estimate contract of 450 *l.*, which has been given in evidence, there were extra men calculated for in case of emergency, or in case the established men were ill; and it was also considered that some expenses might arise which were not calculated; therefore I consider, from the experience I have had during the last two Sessions on these points, that if 50 *l.* be added to the 450 *l.*, making 500 *l.*, the greatest part of the House might be lighted at that increase of expense.

399. Supposing your system were extended to the House of Lords, have you any means of computing what the total saving would be, or in what proportion it

it would be?—I have no means of ascertaining the present expense of lighting the House of Lords; the saving would be at least in the same ratio, as it is in the House of Commons, over oil lights and wax lights.

400. If you would not think it necessary materially to increase your establishment, would not the actual saving be greater in proportion?—A little; if the House of Lords was lighted, we might require three extra attendants instead of two, but no further increase of establishment; that on the whole would be reducing them by one; three instead of four, as I previously stated.

401. If your system should be applied to the new Houses, and the whole be brought under arrangements made for that especial purpose, do you not suppose that the economy would be greater than it now is?—The economy would be very great; the saving in the expense of light which would be wanted in the two Houses would amount to a considerable sum every Session.

[*Mr. Bellamy delivered in the following Return.*] *Vide* Appendix (B.)

APPENDIX.

Appendix (A.)

A RETURN (by order of the Select Committee on House of Commons Lighting) of the Number of Oil Lamps Lighted in the Committee-Rooms, Lobbies, and Staircases previous to Mr. *Gurney*'s Light being introduced; and the Number of Lamps displaced in consequence of the introduction thereof.

Number of Lamps Lighted previous to the introduction of Mr. Gurney's Light.		Number of Lamps Displaced in consequence of the introduction of Mr. Gurney's Light.
4	Lamps on the Staircase - - - - -	4
8	— in the Passage - - - - -	8
4	— in the Outer Lobby, by Post-office - -	4
10	— in the Inner Lobby, now only four used -	6
2	— in Speaker's Secretary's room - - -	2
2	— in Trainbearer's room - - - -	2
1	— Serjeant-at-Arms' room - - - -	1
3	— in Speaker's passage, now only one used -	2
12	— in South, or New Division Lobby, now only four used - - - - - -	8
15	— in the Library and Messengers' room, now only three used - - - - -	12
3	— in the Vote-office, now only one used -	2
64	- - - - - - - - - -	51

The contract price for keeping in repair the lamps, trimming, oil, and lighting, is 1*s.* per night when lighted.

Office of Woods, &c.
12 May 1842.

John Phipps,
Assistant-Surveyor of Works and Buildings.

Appendix (B.)

RETURN of the Cost of Candles, from 1 April 1838 to 1 April 1839.

	£.	s.	d.
Cost of Spermaceti Candles for the year, from 1 April 1838 to 1 April 1839	447	14	9
Add, Supposed consumption during six weeks of the Bude Light, for the interior of the House, 150 candles per night - - - - - -	98	8	9
£.	546	3	6
Cost of Candles from April 1841 to April 1842 - - - - £.	81	18	–

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION

OF THE

NEW HOUSES OF PARLIAMENT;

WITH THE

MINUTES OF EVIDENCE.

(1842.)

Ordered, by The House of Commons, *to be Printed,*
5 *August* 1842.

Jovis, 21° *die Julii*, 1842.

Ordered, That a Select Committee be appointed to consider and report upon the Plan submitted by the Architect of the New Houses of Parliament, for the Ventilation and Warming of the Houses of Parliament, and for rendering them Fire-proof.

And a Committee is appointed of—

Mr. Chancellor of the Exchequer.	Lord Seymour.
Lord Stanley.	Sir George Clerk.
Sir John Hobhouse.	Mr. Hawes.
Sir James Graham.	Sir Charles Burrell.
Viscount Palmerston.	Mr. Tufnell.
Lord Francis Egerton.	Viscount Sandon.
Sir Richard Vyvyan.	Viscount Barrington.
Mr. O'Connell.	Sir John Guest.
Sir Robert Harry Inglis.	Mr. Vernon Smith.
Mr. Williams Wynn.	The Earl of Lincoln.

Ordered, That the said Committee have power to send for Persons, Papers and Records.

Ordered, That Five be the Quorum of the said Committee.

Jovis, 28° *die Julii*, 1842.

Instruction to consider the propriety of accommodating the Clerk of this House with a Residence in the New Houses of Parliament.

Veneris, 5° *die Augusti*, 1842.

Ordered, That the Committee have power to report the Minutes of the Evidence taken before them to The House.

THE REPORT - - - - - - - - - - - - p. 3
PROCEEDINGS OF THE COMMITTEE - - - - - - p. 4
MINUTES OF EVIDENCE - - - - - - - - - p. 5

REPORT.

THE SELECT COMMITTEE appointed to consider and report upon the PLAN submitted by the ARCHITECT of the NEW HOUSES of PARLIAMENT, for the VENTILATION and WARMING of the HOUSES of PARLIAMENT, and for rendering them FIRE-PROOF; and to whom Instruction was given to consider the propriety of accommodating the CLERK of this HOUSE with a Residence in the NEW HOUSES of PARLIAMENT;——HAVE considered the Matters to them referred, and agreed to the following REPORT:

IT appears to Your Committee advisable to adopt, in the New Houses of Parliament, the system of Ventilation which has been for some time past applied by Dr. Reid to the present House of Commons; and as subsequent inquiry and consideration by Mr. Barry and Dr. Reid have confirmed the opinion which they expressed last year as to the superior advantage of effecting ventilation by means of a central shaft, Your Committee therefore approve the erection of a central tower, for which, in conformity with the opinion expressed by Your Committee of the last Session, the foundations have been already laid.

Your Committee are not prepared to express any decided opinion as to the advantage of making that central tower the outlet of all the flues of the several fire-places within the building. Such an arrangement is recommended by Dr. Reid, as calculated to facilitate the process of ventilation, and to diminish the permanent expense of it.

But serious doubts may fairly be entertained as to the success of such an experiment, of which, so far as Your Committee are informed, there has not as yet been any adequate trial in any building of corresponding magnitude.

Under these circumstances, Your Committee are not disposed to recommend a construction of the flues exclusively with a view to that object; on the other hand, they should regret that any measures were taken which should absolutely preclude the adoption of Dr. Reid's recommendation, should it ultimately prove desirable. It appears that the alteration of the flues, after the completion of the building, would be attended with very considerable inconvenience and expense, while the expense of providing in the progress of the work for either alternative would not exceed the estimate already before The House. Your Committee, therefore, think it advisable that a double provision of flues should be made, so as to leave the ultimate arrangement open for future consideration, after an experiment shall have been made of the real merits of the plan.

The propriety of rendering the whole building fire-proof has been brought before Your Committee. The expense of extending to the whole building that protection from fire which is now afforded to a part only, is too inconsiderable, as compared with the entire cost of it, to leave any doubt in the mind of Your Committee as to the advantage of taking the most complete security against fire which it is possible to obtain.

Letters have been submitted to Your Committee from Mr. Speaker and from the Clerk of the House, representing the inconvenience likely to result from not having provided within the building a residence for the Clerk of the House.

Your Committee find that the Committee appointed in 1833 to inquire into the offices of the House of Commons recommended, "that the salary of the Clerk of the House of Commons should be fixed at 2,000*l.* per annum, together with an official residence, which appears to be necessary for that officer;" and although in the Report of the Committee on rebuilding the Houses of Parliament, which met in 1835, it was resolved that the accommodation to the Chief Clerk should be limited to four rooms, Your Committee nevertheless feel, that the duties of this officer of the House are of such a nature as to render an official residence a matter, if not of necessity, at least of great convenience to the public service.

Mr. Barry has stated in a letter to the Chief Commissioner of Woods and Forests, which is before Your Committee, that such a residence may be provided for within the building at an additional expense of not more than 2,600*l.*; and as the present Clerk of the House receives 500*l.* a year for house-rent (which payment would cease on a house being provided for him), Your Committee consider that it would be no less a measure of economy than of public convenience to authorise his being provided with an official house in the new building, as proposed by Mr. Barry.

5 *August* 1842.

PROCEEDINGS OF THE COMMITTEE.

Martis, 2° die Augusti, 1842.

MEMBERS PRESENT:

Earl of Lincoln.	Sir R. H. Inglis.
Mr. Vernon Smith.	Lord Seymour.
Mr. Hawes.	Sir James Graham.

The Right honourable The CHANCELLOR OF THE EXCHEQUER, in the Chair.

Resolved,

THAT it is the opinion of this Committee that provision should be made in the new building for an official residence for the Clerk of the House of Commons, and that directions should be accordingly given to the Architect to provide the same, at an expense not exceeding that estimated by him, 2,600*l.*

[Adjourned.

Veneris, 5° die Augusti, 1842.

MEMBERS PRESENT:

Mr. Vernon Smith.	Mr. Tufnell.
Sir R. H. Inglis.	Viscount Barrington.

The Right honourable The CHANCELLOR OF THE EXCHEQUER, in the Chair.

Proposed Report—read.
Several Amendments—made.
Report, as amended, agreed to.

[To report.

MINUTES OF EVIDENCE.

WITNESSES.

Martis, 26° *die Julii*, 1842.

David Boswell Reid, Esq., M.D. - - - - - - *infra.*
Charles Barry, Esq. - - - - - - - - p. 14

Martis, 26° *die Julii*, 1842.

MEMBERS PRESENT:

The Earl of Lincoln.
Sir R. H. Inglis.
Lord Seymour.
Mr. Vernon Smith.
Viscount Palmerston.
Sir J. J. Guest.

THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER, IN THE CHAIR.

David Boswell Reid, Esq., M.D., Examined.

D. B. Reid, Esq. M. D.

26 July 1842.

1. *Chairman.*] SINCE the Committee sat last year, you have been engaged in conducting certain experiments, with a view to discover the means of obtaining more perfect ventilation of the New Houses of Parliament?—I have.

2. What effect have those experiments produced upon your opinion as to the best mode of ventilating the New Houses?—They have not altered the view which I formerly submitted; they have given me considerably more information upon the details, more especially in connexion with the proposed structure of the flues, and the mechanical power which might be employed to assist, with the view of preventing draughts at doors. They have also led me to entertain still more sanguine hopes than I formerly had with respect to the possibility of obtaining an economical fuel that will give a cheerful fire, and at the same time remove all necessity for sweeping. I find it is admitted by many individuals connected with gas companies, that they could sell gas at 25 per cent. lower than it is at present sold at, were there a more general consumption of gas. In this case it would not be difficult to obtain a fuel much more easily accendible than common coke, and better adapted for the purposes of producing a cheerful fire without any smoke. Another point that has also attracted my attention, is the more minute examination of the air of this locality. I have had almost daily observations made as to the state of the atmosphere in the vicinity of the New Houses since the last session of Parliament, and I have found it affected in an extreme degree by gases and effluviæ, which I formerly mentioned. One instance may more particularly be referred to, where the surface of the river was covered for about three quarters of a mile with liquor from the gas works; and on particular occasions during a debate, I have noticed 40 or 50 people outside smoking, and the smoke passing into the House, so that we have been obliged to fluctuate again and again as to the source from which we have taken the air on a single evening; and, in short, the opinions which I formerly submitted to the Committee have been confirmed as to the importance of taking the air from a considerable altitude.

3. Have you made up your mind as to the necessity of having a central tower, for the purposes of ventilation only?—I have formed an opinion that that is the only mode by which the products discharged from the different apartments and the different kitchens may be thoroughly and effectually carried away.

D. B. Reid, Esq. M. D.

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4. Would you use a mechanical power for the purpose of withdrawing the foul air, or would you use heat, in the manner you do at present?—At the present moment, it may be proper for me to explain, that we use both heat and mechanical power; and in respect to the general principles to be acted on in connexion with the New Houses, I have always advocated this point, that if the structure be so arranged that there be no impediment introduced to the process of natural ventilation, it is so certain to be insured by means connected with the laws that regulate the movement of the air, that there is no need of mechanical power, or of heat, unless upon extreme occasions; and therefore in the New Houses, if the plans submitted be carried into effect, the ventilation will depend principally upon the natural tendency of warm air and vitiated air to escape, and further assistance will be required only on extreme occasions, or when the rooms are crowded, or in peculiar states of the atmosphere, and to prevent draughts at doors.

5. But you would propose to employ, in the central shaft, either mechanical power or the power that heat gives you?—I would consider it in this point of view; viz. that it would be desirable to have a means of applying heat in the central shaft, but that the waste heat from the kitchens, and from the various chimnies, and from the sculleries and other places where heat is developed, will give a sufficient power for all ordinary purposes, provided the exit be sufficiently large.

6. But that proceeds upon the supposition that we are to combine all the chimnies of the building within this central tower?—It does.

7. Supposing it should be determined not to combine all the chimnies of the building within the central tower, what would be the mode you would adopt for effecting the ventilation?—The most economical mode would be the simple application of heat in the central tower; but that mode applied alone would not enable us to resist the draughts of the doors, because any mode dependent upon heat alone produces a tendency to a vacuum movement, unless we can insure that the doors shall be shut, or unless we have double doors, so that one shall be shut while the other is open; we shall always have a considerable influx of air at the doors; but if we use a certain amount of mechanical power, not with the view of depending solely upon it for ventilation, but merely for producing such a plenum that it shall stop draughts at the doors, then we attain every thing that can be desired under the circumstances.

8. How do you propose to stop draughts at the doors?—By introducing air into the House, with such a force that the air shall have an equal pressure within and without. In many cases, where the local situation permits, we obtain a most effectual ventilation by turning our opening to the quarter from which the wind blows; that makes a plenum within; the apartment is filled with air pushed in; the plenum within prevents inward draughts at doors, and, in this instance, the force is given by the external atmosphere; but that is a circumstance that we cannot always command; machinery will enable us to command it when the atmospheric power does not.

9. Does not the success of that depend upon the temperature without the doors being equal to the temperature within the doors?—It is not necessarily dependent upon that; if it be admitted that we have the means to blow in air, then even though the air inside were warmer than the air outside, the mechanical impetus would give a moving power to the air outside the doors.

10. Would you use your mechanical power for the purpose of throwing into the room fresh air, or for the purpose of expelling the foul air?—For throwing in fresh air.

11. In that case you would require both mechanical power to throw in fresh air, and heat in the chimney to carry out the foul air?—If the mechanical power was used with great force to throw in fresh air, it would be sufficient without any heat in the chimney; but if the chimney produced considerable power without the use of any fuel, being a mere natural chimney or outlet, if that should produce sufficient movement, it would not be necessary to use the mechanical power with such force.

12. Have you calculated what would be the annual permanent expense of that operation of mechanical power, either with fuel or without?—I think two engineers and labourers would be perfectly sufficient for all ordinary purposes.

13. The present ventilation of the House of Lords is very much complained of; can you account for the reason why it is worse than that of the House of Commons?—Most perfectly; when it was proposed to ventilate the House of Lords, I was requested

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requested to give an opinion upon the subject; and at the same time it was stated, that as the New Houses would be placed in operation so soon, it would not be necessary to enter upon the subject so minutely as had been done in the House of Commons. Accordingly, after stating what could be done, and laying before the Committee a plan in reference to it, the Committee, without taking any estimate, proposed that 500*l.* should be expended upon the ventilation. I immediately stated, when I went up to the Office of Woods and Forests, that this sum, from the peculiar state of the buildings, would be little more than sufficient to make the necessary channels, and to take away some of the more offensive timbers; I also mentioned that I would recommend that nothing should be touched—that they should rather leave matters as they were than attempt to ventilate on the principles adopted in the House of Commons without a larger expenditure. Under these circumstances an additional grant of 250*l.* was made, which was the least sum with which I said it would be possible to attempt diffusive ventilation. Then with respect to what was done under these circumstances, having stated at the commencement the difficulties of the subject, considering the means placed at my disposal, I mentioned that I could make openings for letting out air and openings for letting in air with such diffusion as the grant permitted. It did not permit me to give a floor such as was given in the House of Commons. At present the complaints that have been made refer principally to two circumstances, as far as I have traced them. In the first place, they refer to the admission of air behind the back; that can be entirely stopped whenever it is wished, and air admitted by the bar, and under each individual seat, in greater quantity than is done at present. I have repeatedly, during this very session, been present in the House of Peers, when members have left it, some because it was too hot, and some because it was too cold, at the same moment; and I have stated, that our great difficulty is that members of that House do not tell us, so frequently as is desirable, when they find too much air coming in, or too little. I have been there under circumstances when we have been quite at a loss how to proceed from the great diversity of opinion entertained by different members; and sometimes, for three or four weeks successively, no communication is made upon the subject. We have the power of shutting off entirely all ingress of air, or of increasing it gradually to any extent, till we arrive at the high st power we can command; but it is rarely that communications are made to us.

14. You attribute then the complaints which are made rather to the imperfect application of your system than to any defect in the system itself?—I do so, upon these grounds, that I have never yet, so far as I am aware, been called upon to remedy a complaint that was not remedied immediately, when no incompatible demands were made at the same moment by other parties, which necessarily restricted the extent of the alterations that might have been made to accommodate these demands. I must except, however, the local influence of cold glass where the protection of double windows is not given, and the effect produced by air from cold or unventilated lobbies when the doors are not sufficiently closed to afford protection against them. I also know that individuals have stated that they have remained for a whole evening uncomfortable, without even telling us, though there was a person constantly stationed in the House for this purpose. I believe the Committee will find that with these exceptions, no complaint has been made which could not have been immediately removed, though it is impossible to attempt to obviate individual complaints by diminishing the ingress of air at particular places, without reducing the general supply of air, or increasing the currents in one place as they are diminished in another.

15. You have no hesitation as to the practicability of ventilating a building as large as the New Houses of Parliament will be upon the system that you have pursued, with respect to the present Houses of Parliament?—None whatever; I consider that I have demonstrated it; it is a thing that can be shown both by models, and by what has been done upon a large scale elsewhere.

16. And at an expense not exceeding what you have stated, so far as labour is concerned?—I do not consider that it will be beyond that.

17. Would it be necessary to employ a steam-engine for that purpose?—If it be desired that there shall be no currents at doors from the ingress of air, then I do not consider that it will be possible to overcome that in a satisfactory way without the employment of a steam-engine. We may give any amount of ventilation without a steam-engine, and to any extent; but where there are so many halls, and so many passages, and so many doors, I do not coesider that it will be

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possible to counteract the draughts at the doors without the aid of some mechanical power. I may put it in this position: if it be desired to send in much air, and if the air introduced must enter with diffusion, it must come through porous textures, in such a manner that it shall not strike strongly upon any individual. If the air is to pass into an apartment where the pressure of the atmosphere shall be less, in however trifling a degree, than that of the external air, then it will be obvious that if a door communicating with the external atmosphere be open, there will be less impediment to the air entering by that door than through the porous texture, by which equality of movement and diffusion is secured. Hence, then, if we do not push in air mechanically with a greater force than it is pushed in by the external atmosphere, we cannot be certain of getting quit of in-going draughts at doors. We may ventilate more cheaply, but we cannot get rid of that specific evil.

18. With respect to the warming of the building, what is your view upon that point; do you adhere to the opinion you entertained last year, that it might be desirable to warm it by flues all conducted into the central chimney, or have you seen any reason to change that opinion?—I never contemplated warming the building by heat to be placed in the shaft for driving out the air.

19. You were understood to contemplate having fires placed in each room, all of which should lead into one common chimney in the centre of the building?—Certainly; but I contemplated, at the same time, producing a certain amount of heat in certain air-channels below, so as to take off the severity of the cold in winter before the air should enter individual apartments. I always contemplated, independent of local fires, to be used partly for the cheerful appearance they present, and for the sake of heat when an individual comes in extremely chilled, communicating a general warmth to the atmosphere by means of certain air-channels.

20. Sir *J. J. Guest.*] What means would you employ for that purpose?—Hot water apparatus is that which I have principally looked to. There is one particular part in the river front, where steam power would be more convenient; for this reason, that in the river front there are many committee-rooms which would be used probably with extreme irregularity, sometimes one and sometimes another; and from the experiments made with hot water, in reference to the mode of heating the river front, I have not found that I am able to make transitions with sufficient economy and rapidity; whereas, if there were one main steam-pipe with branches along the river front, it would be possible, in the case of particular committee-rooms being wanted at once, to give that heat in the locality of any particular committee-room that was required, without expending a mass of fuel upon heating the apartments generally.

21. Do you consider that you would have any difficulty in employing hot-air apparatus?—We should have no difficulty in propelling the air to the place.

22. Through hot-air apparatus?—Yes, through hot-air apparatus.

23. Giving it any temperature you would think proper?—Giving it any temperature, by apparatus, that might be required, connected with the ventilation. We have carefully looked, not merely to the means of heating, but also to the means of making the transition from one room to another comfortable and economical, so as to avoid the large expenditure of fuel that would be necessary were the whole of the committee-rooms to be subjected to the action of a warm atmosphere, when only a few might be required.

24. *Chairman.*] Your plan for the general warming of the building is not incompatible with having a separate fire in each room, in a fire-place of an ordinary kind, burning coal?—It is not; the great point that occurred to me connected with that was, that if we could acclimatize the air so as to produce a medium kind of temperature such as any one would not like to have the air below, then the warming of the individual apartments could be put upon such a footing that it would not be necessary to have such extreme local heat in any of them individually. Often, in a room such as this, on a cold day, when it may be exposed to the easterly wind, when the temperature is very low, the room is not very comfortable unless the fire be urged to a certain degree of intensity; but, then, that intense local heat often renders a part of the room not so available for general purposes.

25. Mr. *Vernon Smith.*] Has further consideration given you any reason to alter the estimate of the original expense which you gave before the Committee last year?—Nothing has occurred to me to lead to any material alteration connected with the estimate,

26. You still think that sum will cover the whole?—I do; I ought, upon most of those points connected with the estimate which do not bear upon the apparatus so much as upon architectural arrangements, to refer to Mr. Barry.

27. Referring to the estimates of last year, have you seen any thing since that makes you believe that you would be obliged to exceed that sum?—Nothing has occurred to give me any idea that that sum would be exceeded.

28. Sir *J. J. Guest.*] Was not it part of your plan that two towers should be erected for the purpose of the ventilation?—One tower; there are three towers proposed altogether, but two were originally contemplated, the clock tower and the Victoria tower; there is only one additional tower for the ventilation.

29. *Chairman.*] The Victoria tower is to be the channel through which the air is to descend that is necessary for the operation of ventilating the building?—The Victoria tower when the wind is in one direction, and the clock tower when it is in another, so that at all times we can secure an atmosphere free from the vitiated air escaping from the building.

30. Earl of *Lincoln.*] Part of your plan is that the central tower should be one great chimney for carrying off the smoke from all the different apartments?—Not only the smoke but also all the vitiated air.

31. Would that plan be incompatible with each committee-room having a separate chimney of the ordinary construction, in addition?—It would be incompatible with their being worked, but there can be no reason why they should not be built in the walls.

32. The construction of separate flues to the committee-rooms would not interfere with the perfect operation of your plan?—Not in the slightest, if they are thoroughly intercepted and cut off in the mean time from the general connexion with the central shafts.

33. *Chairman.*] Your general plan imposes the necessity of burning nothing but coke, or some fuel of that kind, does it not?—It does not impose that necessity any more than ordinary chimnies; with ordinary chimnies, if smoky fuel be burnt, they will be blackened in the usual manner; and it is only that the larger chimney would be blackened, if coal were used, instead of many smaller chimnies being blackened.

34. And smoke coming out of the central tower of a building of this description, it was thought by the Committee, would be a deformity?—Yes, it was considered a great objection; I perfectly understood, that, partly with the view of obviating this objection, the proposition for using smokeless fuel was submitted.

35. Viscount *Palmerston.*] Was it not thought that the smoke might be consumed in the great tower?—That was suggested, but so far as any plan has hitherto been brought into operation for effecting that object with certainty and economy, I think it would be a pity to trust to it; there is no doubt of the possibility of it; but the certainty of success would depend upon the proper attention of almost every servant of the whole establishment to each individual fire, and this it would be difficult to insure.

36. Lord *Seymour.*] Can you state what is the expense of the present system of ventilating the House of Commons, as it is now carried on?—I could not cast all the items up at once.

37. Can you state at all nearly what you consider to be the present expense?—I should think it must be somewhere about 400*l.* or 500*l.* a year for the ventilating and warming; they are all mixed up together; it must be more than that, including the fuel for the warming; the cleaning department and the supply of hair-cloth would also add largely to the amount, though these or other equivalent expenses are necessarily attendant on the use of any rooms where great numbers congregate daily. But I would not wish to be considered as being capable of replying to the question proposed without getting access to documents on that subject, because those that attend to the ventilating attend also to the warming; the ventilating is also connected with the lighting in some respects, so that it is rather a complicated question; but it is a question that could be easily answered by a reference to documents.

38. Could you answer it, separating the expense of ventilating from the expense of warming?—I should think there would be very little difficulty in getting an approximation quite sufficient for any practical purpose; but as the same individuals attend to both, of course the expenses for warming and ventilating merge more or less into each other.

39. *Chairman.*] If the central tower was applied solely to the purposes of

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ventilation, would it be necessary that there should be constantly smoke issuing from it?—Not at all; in that case, whatever fuel might be employed for ordinary purposes, there need not be any smoke from the central tower; but there would then be this difficulty in connexion with the ventilation—there would be upon each separate room treated in this manner, two separate pulls—the draught of the chimney would be pulling up the chimney by the force of the heat, and there would be a pull in another direction by ventilation; there would be one channel for the discharge of the air into the ventilating chambers, and another channel for the discharge of the products of combustion from the fire-place, and as these would not draw together, we should be subject to smoke or to the return of products of combustion in many cases, unless a more minute and careful attention were paid to the precise supply and discharge of air than would otherwise be necessary. The great point I was anxious to show is, that all these forces pull together according to the system submitted, and that instead of there being a tendency to smoke when there is good ventilation by the appropriate channel, or a tendency to back currents from ventilation when the fire is in high action, by arranging the exit from the fire-place and the shaft to move together and terminate finally in one discharge, they pull together, and do not counteract one another.

40. *Chairman.*] Are there not, in the neighbourhood of the House of Commons, several rooms with fires which do not smoke, notwithstanding the ventilation of the House of Commons?—From the reports that have come to me, I fear that is not the case, though the smoke that occurs at times in the rooms referred to, is produced in general by the manner in which the westerly wind strikes upon the high walls that rise above the chimnies. I have been repeatedly applied to and told that the rooms have been covered with smoke; the room, for instance, of the Speaker's secretary, has been covered to such an extent with soot smoke, that he has been obliged to leave it during the sitting of the House.

41. Sir *J. J. Guest.*] What connexion has that with the ventilation of the House of Commons?—The connexion is this; the rooms communicate with one passage, and this passage, whenever the House door is opened, is discharging air into the House, and pulling it from other places. Now if it happens that a strong westerly wind shall blow down the chimney, or blow upon the top of the chimney, at the very moment when there is a general movement of the doors into the House of Commons, that has a tendency to facilitate the passage of air from the apartment where the smoke may have been produced to the intermediate lobbies, and consequently into the House of Commons..

42. That is supposing that the draught in the House is strong enough to draw down the air, and to overcome the difference of altitude?—Yes.

43. *Chairman.*] Do you imagine that the adoption of your system of ventilation, unaccompanied by the system of drawing all the chimnies into the central tower, will necessarily produce smoke in the rooms throughout the building?—Not necessarily, because modifications would be made in the plans, according to the extent to which they might be adopted. Mechanical power might be resorted to if it is required to ventilate in the manner now adverted to, and this would entirely prevent all tendency to smoke. If it were required to draw air from a very crowded room, and if sufficient air be not propelled in to supply both the chimney and the ventilating discharge, then there will be a tendency to smoke.

44. Sir *J. J. Guest.*] Do you contemplate throwing warm or cold air into the different rooms, as well as the Houses of Parliament?—It is considered that the basement is susceptible of sending a mild air to all the buildings.

45. Do you propose to ventilate all the committee-rooms upon the same principle as the Houses of Parliament, or to leave them to the operation of ordinary chimnies?—It is proposed to put them upon the same system, but there would not be such special provision made for individual rooms as for the Houses, where changes are made sometimes every five minutes, according to the attendance, and the state of the external atmosphere.

46. Lord *Seymour.*] The expense at present of ventilation, separating the ventilation from the heating, consists of the expense of fuel, and the expense of attendance?—Yes, it does.

47. Those are the only two items of expense, as connected with the ventilation?—The only two items.

48. The only fuel that is used for the purpose of ventilation is the fuel in the tower?

tower?—Yes; at the same time the movement of the air is very much modified by the degree of heat communicated to it in the lower warming chamber.

49. For ventilating the House how many hours in the day commonly is it necessary to keep the fire in the tower?—Only during the sitting of the House.

50. At what time is the fire commonly lighted?—The fire is rarely out, but it is a mere kindling that is kept in it all the day till the Houses meet; but when the men are cleaning the House, and minute dust is suspended in the air, in order to draw out this dust, which under ordinary circumstances is deposited after a public room has been swept, we occasionally put on an extreme force, and draw it out, so as to prevent any from being deposited.

51. Do you burn coal in the tower?—Nothing but coke.

52. Is any additional expense in point of fuel occasioned by the partial ventilation of the House of Lords?—Very considerable.

53. In the tower?—In the tower; in many cases the whole power is put upon the House of Lords, and we fluctuate continually between the House of Lords and the House of Commons; no alteration can be made in the one without affecting the other.

54. Then, in order to give that partial ventilation to the House of Lords, you take off at times the ventilation that would otherwise be given to the House of Commons?—Or put on an additional amount of heat.

55. Is the tower at present large enough, if the flues were well arranged, to ventilate perfectly both the Houses?—I think it quite large enough to ventilate perfectly both the Houses at present, but it would be totally insufficient, even with a double fire, to meet extreme cases in hot weather. I dare say Mr. Barry may recollect a circumstance that occurred when Parliament met last autumn, which was the first time that I saw Parliament assembled, when the Houses were crowded, during extreme weather; we had to put on twice as large a fire as we had ever used before; I have reason to believe that we were giving 70,000 cubic feet a minute, and the members were dissatisfied because they had not air enough; it happened to be an extremely sultry afternoon, and the air had been saturated with moisture previously by a little rain; the barometer fell, and the electricity was in a peculiar condition, while, from the river on one side, and the grave-yard on the other, the air was equally offensive. I refer particularly to Mr. Barry, because he came out quite flushed, and said he could not bear the House; and at that moment we were giving about 70,000 cubic feet a minute. The watering of the streets, with the view of laying the dust, often produces a most offensive vapour, which may be traced as it evaporates, when the ground is warm; I have seen no atmosphere more offensive than that which is at times produced in this manner.

56. Earl of *Lincoln.*] Will the expense of the ventilation of the New Houses, according to the plan you propose, be increased, as compared with the expense of ventilation at present carried on?—I expect it will be greatly diminished in proportion to the amount of work done, because if the plan be adopted that I proposed for the New Houses, we shall never then be subject to the disadvantage of bringing hot air downwards; all the hot air will have a natural tendency to ascend; therefore, we shall only assist so far as is necessary the escape of the air.

57. Do you mean that you expect that the annual expense of ventilating the New Houses will not greatly exceed the annual expense of ventilating the present Houses?—I consider that it will not greatly exceed, with the exception of the attention required to the machinery. If I am to consider the question as applying to the Houses proper, I consider that it will be less.

58. Sir *J. J. Guest.*] What is the area of the aperture at which the air escapes from the Houses?—The area of the aperture at the extremity of the shaft is about 50 feet.

59. Then the air must have escaped at the rate of about 400 feet a second, taking 70,000 feet a minute?—Suppose that the area is 60 feet, which is the size of our channels before they reach the fire; I am referring to a part where the velocity can be measured; and if we produce there a velocity 10 feet a second; that will give 600 per second; then if we multiply that 600 by 60 the seconds in a minute, there is 36,000 per minute. Now, if we have only a velocity of 20 feet a second, we could command 72,000 feet per minute, measured in that way. Now, I know from frequent experience that we can easily command a velocity

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of 30 feet a second in the shaft; but then we are not entitled to measure by the velocity in the shaft, because whenever the air comes to the fire-place, it is expanded so much, that unless we could measure the temperature at the top of the shaft, so as to show the amount of expansion that the air receives as it touches the fuel, we should make an erroneous calculation.

60. Lord *Seymour*.] You stated that a steam-engine would be desirable for the purpose of pumping the air into the New Houses; and you stated that two engineers and some labourers would be necessary to work the system of ventilation; did you mean in reference to the machinery which you propose to adopt, or in reference simply to keeping up the fires and ventilating by means of heat?—I referred solely to the superintendence of the engine. In all places where we have had engines, we have always made it a primary point that we should not introduce an engine, unless we are prepared to have an engineer whom we can thoroughly depend upon.

61. You propose an engine merely for the purpose of pumping in the air?—Yes.

62. Have you ever considered the possibility of drawing off the foul air by means of a vacuum produced by a steam-engine?—I have.

63. Do you think that would be applicable to the Houses?—I think it would be perfectly applicable, but I consider it as demonstrable that if you are to use the vacuum principle, you can do that much more economically by heat, and I have always adopted the shaft where the vacuum principle has been adopted. In working the vacuum movement by means of an engine, we have all the trouble of the engine in the first place for producing the effect which may be produced with a labourer and fuel alone. Then comes the question of economy; now, if we leave things alone without giving any obstruction to the escape of air from any given area, there is no heat required beyond the heat of the body to give any amount of escape. But, in a room where air is permitted to escape above, if the aperture be contracted to such a degree that extreme power is required to draw a certain quantity of air within a given time through it, then it is necessary to burn a vast deal of fuel; but if the opening be made as large as possible and a gentle heat be given, it will give comparatively a great discharge. It will be equivalent to producing motion in the air in the same manner that wind is more generally produced. There is no balance so absolutely delicate as that of one portion of the atmosphere against another; therefore, the slightest variation of pressure produced by expansion is sufficient to cause a great change, if there be a sufficient area for the discharge.

64. Sir *J. J. Guest*.] Supposing you used a steam-engine, do you contemplate using the openings in either of the chimnies at the same time, or do you mean that they should be independent one of the other?—I should always consider it essential to have two openings.

65. If air is forced in by a steam-engine, would not that interfere with the circulation of the air under the common process of drawing up the chimney, because you increase the density of the air in the Houses by that means?—If you increase the density of the air in the Houses, it will go out still more easily by the other openings; if you make a current, of course it will; if we blow air into an apartment, we must either let it find its own way out or make some regular channel. Now, if we have a channel by which it can go away, it is not necessary to put a power upon that channel if we are blowing in, but it is desirable to have a regular route for the foul air to go, or otherwise it may come down upon those occupying the room; for instance, if air were blown into this room, the air going in might go directly out by the window or by the chimney, and nobody might get any benefit by it, but if we had one extended opening below, and all around the room and another above, the air must traverse the apartment from the place where it comes in to the place where it is discharged, and therefore minister to the comfort of those in the apartment.

66. Supposing a certain current of air is produced by heat in the chimney, do you increase the current by forcing in a larger quantity of air by a steam-engine at the bottom, unless the openings in other parts of the House are closed?—I consider that we increase the current if we produce greater pressure.

67. Supposing the density was increased, could not the air go out at the openings instead of coming in?—Unquestionably it would tend to do so.

68. You would not increase the current in the chimney by forcing in a large quantity of air from the steam engine, unless you closed the openings and forced it up the chimney?—Any pressure that could force the air out at the door must equally

equally force it out by the chimney; and, therefore, though trifling pressure only be produced in the room when the doors or windows are freely opened, still that pressure must act in every direction. If any power be put in operation that shall compress the air in the room, that air in the room must tend to go with greater force out at the doors and chimnies or windows.

69. Sir *R. H. Inglis.*] Your plan comprehends three objects—the ventilation of the whole building, including the Houses proper; the warming of the whole building; and the incorporating in one great chimney all the separate chimnies and flues in each particular room?—It does.

70. Is it possible and easy to separate the warming of the two Houses from the warming of the rest of the building, leaving the separate chimnies and flues of each particular room as they would be left in an ordinary dwelling?—There is no difficulty; it is only a question, how far it may be desirable.

71. Would you not by that separation remove all danger of a great column of smoke arising from the central tower, which it was proposed last year to erect?—Most unquestionably, if the ventilation were solely carried there.

72. The rest of the building being left to be warmed as buildings in London are usually warmed, by fire-places in the rooms respectively, you could both warm and ventilate the two large rooms in which the two Houses assemble, and effect all the objects connected with such warming and ventilation by the central tower, without any risk of disfiguring the effect of the whole by the column of smoke which might otherwise arise from such central tower?—Perfectly, with this one exception, that the air taken in to supply the Houses would not be so good; because the air from all the kitchens and sculleries and other places in the building would not be so certainly carried away from the sphere of influx.

73. But in any case the air taken in from the summit of the Victoria tower on the south and from the clock tower on the north, would be taken in from an elevation above the river of something like 200 feet in the lowest case and 250 in the highest?—It would.

74. Sir *J. J. Guest.*] Supposing that plan adopted, would not the ventilation of the two Houses be much more under your control than if it were mixed with that of the rooms?—I should not consider that it would necessarily be more under control. It would be desirable that greater power should be capable of being applied to the Houses proper, under all circumstances, than to the rooms; but it would greatly diminish the extent of arrangements that would be required for this purpose were the committee-rooms and other apartments not ventilated.

75. Supposing you were to apply your plan of ventilation to the two Houses of Parliament alone, and to let the committee-rooms have their own chimnies, with the addition of warm water, would that be an improvement, so far as the warming of the rooms was concerned?—I should consider that plan perfectly capable of being put into execution.

76. Would not that be a considerable diminution of expense?—It would diminish the estimate by the amount by which the ventilation is reduced.

77. What would you think of the system of warming the rooms with warm water, and leaving a fire-place to each room?—We have contemplated the warming the larger committee-rooms with warm water.

78. And leave the ventilation of those committee-rooms to the ordinary means by which other rooms are ventilated, by a fire in each room?—I fear that would scarcely be considered very satisfactory.

79. Supposing they were warmed as comfortably as the rooms in the British Museum are, and the King's Library, with warm water, you would have no difficulty in maintaining a temperature such as is kept there?—I should have no difficulty in maintaining that, but I know there are many applications made to me by individuals, who state that they cannot study in those rooms in the Museum.

80. Viscount *Palmerston.*] In that case, you would still have the central tower?—Yes; it would not be necessary to have one of such magnitude for the Houses alone.

81. Sir *J. J. Guest.*] You would have no difficulty in increasing the temperature beyond 60 or 65 by warm water?—Certainly not; but perhaps you will permit me to remark, that I have long been led to believe, that the matter that is at the root and the foundation of all these questions is, the amount of air that you will allow a man to breathe; the question is, what amount of supply is to be provided?

82. Lord *Seymour.*] The fire which you propose to use for the purpose of ventilation,

D. B. Reid, Esq. M.D.

26 July 1842.

tilation, is not also to be used for warming the water with which you propose to warm the building?—Not necessarily; but, at the same time, that question is necessarily complicated in this manner, if we turn all the heat we can upon the basement in winter, that heat, though employed effectually for warming the building, will, from its mode of application, exert a ventilating power, where the structure is arranged with this view. In summer we never wish to use any heat employed for ventilating in the way of producing warmth. In extreme summer weather we may not be able to command a movement when we wish to avoid heat below; we are then forced to employ the heat over instead of under the apartment.

83. But commonly, you would have two fires, one for the purpose of warming the water used for warming the building, and another burning simply for the purpose of ventilating the building?—I should hope that the second fire now referred to might in a great measure be dispensed with, if the waste heat from the kitchens should be led into the central shaft. We propose that two fires should be used, but the upper fire will be used principally in the summer, when we do not wish to heat, and the lower fire-place in winter, when we do wish heat; they might both be made substitutes for each other, when the buildings are constructed accordingly.

84. Sir *J. J. Guest.*] Would there be any difficulty in restricting the system of ventilation to the halls and passages and open spaces, leaving the committee-rooms to be warmed by warm water?—There is no difficulty in restricting it within any range that might be considered desirable.

Charles Barry, Esq., Examined.

C. Barry, Esq.

85. *Chairman.*] HAVE you made any estimate of the expense of the proposed central tower?—I have.

86. It was stated in the last year's estimate?—Yes, it was; in round numbers it amounted to 20,000*l.*

87. Do you contemplate that the central tower is to be the channel through which the whole of the smoke of the fire-places of the building is to escape?—That is the system proposed by Dr. Reid, and the arrangements have hitherto been made with that view.

88. Do you consider it practicable, with a view to the comfort of the different rooms of the building?—Upon that subject I would rather not express any decided opinion, not having had any experience of the application to buildings of the system proposed.

89. Would it be consistent with the comfort of the different rooms?—I would rather not express a decided opinion upon that subject, but I have reason to believe that it would.

90. Sir *J. J. Guest.*] What would be the altitude of the tower?—Two hundred and fifty feet.

91. Supposing a chimney were erected some 300 yards from the building, altogether away from it, would there be any difficulty in giving the same velocity to the escape of the air in going out of the tower, as if it were in the building?—I should imagine there would not be any difficulty in giving the requisite degree of velocity; but the communications that would be necessary would make such an arrangement extremely expensive.

92. Supposing such an erection to be made for the escape of the air at some convenient corner of the building, would there be any difficulty in giving the same velocity to its escape there as it would have at the tower?—No, but I think the central discharge would be more convenient.

93. But supposing you wished to avoid the possibility of disfigurement by reason of smoke, could not you contrive some erection at some corner of the building by which the escape of the air might be effected?—I do not anticipate that there would be any disfigurement from the proposed use of the central tower, but it would no doubt be possible to construct a shaft in another portion of the building.

94. The question does not refer to a shaft, but a lower erection, 50 or 60 feet high?—I do not believe that it would be effectual at that height; it must be nearly equal to the height of the inlet air shaft.

95. *Chairman.*] How did you originally intend that the chimnies should be constructed?—In the ordinary way, with flues and chimney stacks.

96. Have

96. Have you made preparations for turning all those flues into the central tower, if it should be necessary?—Yes.

97. The building is altogether 900 feet?—Yes, about 900 feet.

98. Do you think there would be no inconvenience in a flue 400 feet long, from the end of the building, going into the central shaft?—I apprehend not, assuming the system proposed to be sound in principle.

99. What is your opinion of the soundness of the principle?—I am not prepared to state any objection to the principle; I can, however, give no decided opinion upon it from experience, never having seen it applied to extensive buildings, although I am not aware of any objection to the application of the system to a building, however extensive it may be.

100. Earl of *Lincoln.*] Have you, in order to guard against the possibility of its failure, made any provision for separate flues in the ordinary mode?—Yes.

101. Sir *R. H. Inglis.*] Have you considered that in a large proportion of the flues the smoke must travel horizontally in a great degree?—Yes, I have.

102. Sir *J. J. Guest.*] Are you aware that in the ventilation of mines a strong current is produced in some cases by the use of a fan?—Yes, I am aware of that; but at the same time I believe that in mines the outlet shaft is generally nearly equal in length to the inlet shaft.

103. Lord *Seymour.*] Have you prepared for warming the whole building with warm water?—I have made no arrangement for that purpose.

104. Have you considered the way in which it was to be warmed?—As the subject has been altogether referred to Dr. Reid, I have not considered it necessary or within my province to give any serious attention to it.

105. Will it not be necessary now to decide whether warm water shall or shall not be used for the purpose of warming the building?—I should say that it is not absolutely necessary that the decision should be come to immediately.

106. In case the building were to be warmed by means of warm water, have you any part of the building appropriated for the purpose of the fire?—Yes; a portion of the vaults could be appropriated for the necessary furnaces, hot-water plates, pipes, &c.

107. Mr. *Vernon Smith.*] So far as regards the disfigurement of the building, would the effect of the issuing of the smoke out of one central tower be preferable to through several common chimnies?—I think it might; but I do not apprehend such a result from the system proposed.

108. *Chairman.*] What means have you taken for fire-proofing the building?—None at present; I am waiting for orders as to the additional fire-proofing proposed.

109. To what extent is fire-proofing included in the present estimate?—To the extent of the public rooms on the ground-floor generally, and a fire-proof floor between the principal story and the two-pair story.

110. The roof is not fire-proof?—No.

111. Viscount *Palmerston.*] And no part of the private houses?—No part of the private houses with the exception of the basement, and the provision of iron doors in the party-walls.

112. Have you made any estimate of the additional expense which would be incurred by making the whole building fire-proof?—Yes, I delivered an abstract of that estimate to the Committee of last year.

113. Lord *Seymour.*] Have you also made an estimate of the expense of carrying the flues into one central tower?—I have; that is included in the estimate of last year.

Martis, 2° die Augusti, 1842.

MEMBERS PRESENT:

Earl of Lincoln.	Sir R. H. Inglis.
Mr. Vernon Smith.	Lord Seymour.
Mr. Hawes.	Sir James Graham.

THE RIGHT HON. THE CHANCELLOR OF THE EXCHEQUER, IN THE CHAIR.

[*The following Letters were laid before the Committee by the Earl of Lincoln, and read:*]

2 August 1842.

My Lord, House of Commons, 7 July 1842.

As the buildings for the New Houses of Parliament are now considerably advanced, I am anxious to call your attention to the expediency of providing a residence for the Chief Clerk of the House of Commons, within that part of the building which is to be appropriated to the officers attached to the House.

His duties require his attendance until a late hour of night, and it appears, therefore, to be of importance, both for his convenience and also for the efficient discharge of his duties, that his residence should be close at hand.

I have requested Mr. Ley to state, in a letter to your Lordship, more fully the reasons which render it expedient that this should be done; and I have to request the favour of your attention to the subject while the new buildings are in such a state as to permit of the requisite arrangements being made for the purpose.

I have the honour, &c.

Charles Shaw Lefevre.

The Earl of Lincoln, M. P.
&c. &c. &c.

My Lord, 4, Richmond-terrace, 15 July 1842.

In a conversation I lately had with Mr. Barry, in relation to the offices in the new buildings for the two Houses of Parliament, he informed me that there would be sufficient space for the erection of an official house for the Clerk of the House of Commons, and that he did not know to what other purpose it could be so well applied.

I never could understand upon what ground the Building Committee decided that there should not be an official house provided for the Clerk, except want of room; there might be good reason for not having any official house within the building; but it seemed consistent that such house should be attached to the office of the Clerk, the permanent patent officer of the Parliament, if an official house were to be provided for any one.

The Clerk always has had an official house. In 1760, a house was built for him in Cotton Garden, in which I resided until it was destroyed by fire. In 1833, a Select Committee on the House of Commons' Officers and Offices, who minutely entered into all details connected therewith, reported as follows, in respect of the Clerk:—"We are of opinion that the salary of the Clerk of the House of Commons should be fixed at 2,000*l.*, together with an official house, which *appears necessary* for this officer."

Personally, I am not interested in this matter, because, when I understood that the Building Committee did not recommend that an official house should be provided for the Clerk, I purchased the lease of a house in Richmond-terrace, which, as a residence, I prefer to any official house in the new building; nevertheless, I continue to hold the opinion which I have given officially on two or three occasions, that the Clerk and Clerk-assistant each ought to have an official house immediately connected with the House of Commons.

I have the honour, &c.

John Henry Ley.

The Earl of Lincoln,
&c. &c. &c.

My

2 August 1842.

My Lord, Westminster, 1 August 1842.

I REGRET that I did not arrive in town to-day in sufficient time to attend the Committee of the House of Commons for Warming and Ventilating the New Houses of Parliament, and the more so as, owing to several engagements which I have in the country, and which I am not able to postpone, I shall be obliged to leave town again early to-morrow morning, and shall, therefore, be prevented from having the honour to attend the adjourned meeting to-morrow afternoon at two o'clock. With reference to the subject upon which I believe the Committee wished to examine me, namely, the proposition for obtaining a residence for the Clerk of Parliament in the new Parliamentary buildings, I beg to acquaint your Lordship, that such a residence, with every requisite accommodation, can be obtained in the new building, without any injurious interference with its convenience or effect, at an extra cost of about 2,600*l.*

I have the honour, &c.

Charles Barry.

The Earl of Lincoln,
&c. &c. &c.

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION

OF THE

NEW HOUSES OF PARLIAMENT;

WITH THE

MINUTES OF EVIDENCE.

(1842.)

Ordered, by The House of Commons, *to be Printed,*
5 *August* 1842.

536.

Under 3 *oz.*

Brought from the Lords, 13 *May* 1844.

REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS

APPOINTED TO INQUIRE INTO THE

PROGRESS OF THE BUILDING

OF THE

HOUSES OF PARLIAMENT,

AND TO REPORT THEREON TO THE HOUSE;

WITH

THE MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE.

Session 1844.

Ordered, by The House of Commons, *to be Printed*,
13 *May* 1844.

REPORT.

BY THE LORDS COMMITTEES appointed a SELECT COMMITTEE to inquire into the PROGRESS OF THE BUILDING OF THE HOUSES OF PARLIAMENT, and to report to the House; and to whom Leave was given to report from Time to Time to the House;

ORDERED TO REPORT,

THAT the Committee have met, and considered the Subject to them referred; and have examined several Witnesses; and have come to the following Resolution; viz^{t},

RESOLVED, That it appears, from the Evidence of Charles Barry, Esquire, that during the Progress of the building of the Houses of Parliament certain Departures have taken place from the original Plans approved by the Committees of the Two Houses of Parliament, and ordered to be carried into Execution under the Direction of the Boards of Treasury and of Works, which Alterations have been made by Mr. Barry without any authority from either of those Boards; to which Circumstance they think it right to call the particular Attention of this House.

AND the Committee have directed the MINUTES OF EVIDENCE taken before them up to this Time to be laid before your Lordships.

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MINUTES OF EVIDENCE.

Die Jovis, 21° *Martii* 1844.

The LORD SOMERHILL in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

C. Barry, Esq.

21st March 1844.

CHARLES BARRY Esquire is called in, and examined as follows:

1. THE first Point the Committee are anxious to ask about is about the Question of Time. How soon do you think that the Peers Chamber can be finished, with proper Accommodation for the Lords to sit in?
I have reported to Lord Wharncliffe that, in my Opinion, it is possible for the Peers to sit in the new House next Session, but with temporary Fittings.

2. Have you any Notion what the Increase of the Expense of the temporary Fittings would be?
I have not.

3. Would it be above 2,000*l.* or 3,000*l.*?
I should think not, using up the Fittings of the present House; but there will be other Expenses connected with the warming and Ventilation, over which I have no Control.

4. And which would be so much thrown away for One Year?
I believe so. The permanent warming and Ventilation Apparatus would, however, be fixed; but there would be also a Portion that will be temporary.

5. But the Fittings are merely Tables and Benches?
The Benches, Wall Framings, Doors, Screens, &c.

6. It would require a plain Frame?
A plain Frame, covered with Crimson Cloth, would answer for the Wall Framings.

7. How would it be in respect of Dryness?
That I cannot undertake to answer.

8. How soon do you expect it to be covered in?
I think we shall be ready for the Roof in about Six Weeks. The Roof will immediately be proceeded with; and I suppose in another Six Weeks the House will be covered in. The Roof will be ready by the Time the Walls are up to receive it.

9. Is it an Iron Roof?
Yes; an Iron Roof.

10. Is the Woodwork in course of Preparation?
For the Woodwork of the Ceiling Orders are already given.

11. Is the Ceiling to be Iron or Oak?
The Ceiling is to be all of Wood. The Roof will be of Iron; but the Part that will be seen will be of Wood.

12. Of Wainscoat?
No; of Deal, painted.

13. Will that be much cheaper than Oak?
Yes; but it would not be worth while to have it executed in Oak, because it is proposed that the whole should be painted.

14. The Ornaments that are seen in the Model will be of Oak?
Yes; such as belong to the Fittings.

C. Barry, Esq.

21st March 1844.

15. That is a Part that will require temporary fitting?
Yes.

16. Had you not an Idea of making the Ceiling of Iron?
No, never. I should say it would not be desirable to have it of Iron, on account of the immense Weight that would thereby be thrown upon the Walls; and although Means might be taken to lighten the Castings very considerably, yet, with all those Means applied, the Weight would probably be as much as Six Times the Weight of Wood.

17. Suppose a Fire to happen; as there must be a great deal of Woodwork, namely, the Floor, and the Gallery of the Strangers, and the Members Gallery, if we should agree to have one, and the Seats of the Throne and the Woolsack; would it be any great additional Security against Fire, all that necessarily remaining so combustible, to have the mere Ceiling of Iron?
I imagine it would not be any great Advantage to have the Ceiling of Iron, inasmuch as there will be a complete Fire-proof Floor above it; so that if Fire reached the Ceiling it would not extend further.

18. Which would be the best for hearing?
The Wooden Ceiling.

19. You have put Two Side Galleries inside?
Yes.

20. Do you apprehend that there would be any thing unsightly in the Height of the Wall not being broken by the Gallery? Is it for Ornament or for Use?
It is for the Purpose of getting the required Accommodation within the Walls of the Building, and to assist the Voice of Speakers on the Floor of the House.

21. Without the Galleries, how many Peers could be accommodated on the Floor?
I can answer that Question by a Reference to the Plan. This is a Plan of the Ground Floor of the House (*producing the same*), which will be entirely devoted to the Accommodation of the Peers, and the Number which can be accommodated, according to the Arrangement of the Sittings there shown, will be 310. The original Instructions were for 300.

22. Supposing there is Room for 300 Members on the Floor, at the Allowance of Two Feet for each Member, crowding their Lordships a little, how many more would the same Space hold without any very great Inconvenience?
Perhaps Fifty or Sixty more. If on those Benches where I have provided for Seven Sittings you were to consider them to be for Eight, that Alteration alone would accommodate Forty more.

23. Was it determined that there should be a Gallery simply for the sake of the Plan, or was it not determined that there should be a Gallery on account of the Sound?
No; I do not think that Sound was in the first instance a Consideration in adopting them; but I do think they would assist the Voice of Speakers upon the Floor of the House very materially.

24. How far do you propose the Projection of the Floor of the Gallery to extend?
It would be about Three Feet beyond the Line of the Wall.

25. How many of those Benches will it cover over?
Only One.

26. Will it not add to the Appearance of the Room as a deliberative Chamber to have a Gallery?
I think so; it will diminish what would otherwise be an excessive Height below the Windows.

27. If you were to remove that Gallery you would require to change the Ornaments of the Wall?
Entirely; it would involve an entire Change of the internal Design.

28. The

28. The Committee wish to call your Attention to the Plan of the Victoria Gallery, which, according to the present Plan, opens directly to the House of Lords, and the House opens into that. Now several of their Lordships think that there will be great Inconvenience in such an Arrangement, in consequence of the Necessity of having this Gallery always lighted and heated to the same Temperature as the House, if there is no intermediate Lobby; and the Committee wish to know from you what Evil there would be in making a permanent Separation of the Gallery, by a Continuation of the Corridor across the End of the Gallery?

Under any Circumstances I imagine it would be necessary to heat this Gallery, because, as it is proposed to make it the chief Place for Paintings, it would be necessary always to keep it heated. As to lighting, if it was merely for the Purpose of passing across it there would be no Difficulty, for by means of Candelabra placed across the End of the Gallery it might be made light enough for passing from one Corridor to the other without lighting the whole Space. I would, however, beg to say, that any Screen placed across the End of the Gallery would very much injure the Effect and Importance of the Room.

29. The Dimensions are 120 Feet by 45?

They are.

30. Do you see any Objection to having the Entrance for the Queen by Westminster Hall?

The only Objection that might be urged would be, the great Distance that the Queen would have to walk from the Entrance in New Palace Yard to the House.

31. There would be no other Difficulty?

I am not aware of any other Difficulty.

32. In what Manner do you propose to secure the Throne from the Draught that would come in from the Victoria Gallery?

The Door at the Back of the Throne, as proposed, would only be opened when the Queen came to the House. It would not be one of the ordinary Entrances to the House.

33. Supposing the Gallery remains without a Lobby behind the Throne, would not the Air from that Gallery, if it be not heated, circulate through the Passages so as to enter the ordinary Doors of Approach to the House?

I should say not.

34. Would it not be constantly open?

The Door at the Back of the Throne would be constantly closed.

35. Is your Reason for supposing that the cold Air in this great Hall, if it were not heated, would not affect the House through the Doors of Entrance, only that it is cut off from the Passages to the House by folding Doors?

The Temperature of the House would not, I think, be affected by the Temperature of the Victoria Hall, in consequence of Two Pairs of intervening folding Doors at a considerable Distance from each other.

36. How many swing Doors would there be between the Great Hall and the Doors of Entrance into the House of Lords?

Four Pairs; Two on each Side. But I assume that the Victoria Gallery must always be warmed.

37. Whether the House is sitting or not?

Yes.

38. On what Account do you consider that it should always be warmed?

For the Preservation of the Paintings and Decorations of the Gallery.

39. Supposing there were no Paintings, would it be necessary for the Decorations?

It would be desirable, but not so necessary.

40. Would the same Degree of Heat be required merely to do what was needful for preserving the Pictures and Ornaments which would be necessary for preventing the cool Air from getting into the House when sitting?

I imagine it would.

C. Barry, Esq.

21st March 1844.

41. From what you understand of the Principle of warming and Ventilation by Dr. Reid, do you imagine that it will be perfectly easy at the Time that the House is ventilated to carry on the same Ventilation into the Victoria Gallery?
Perfectly easy, and at little or no Expense.

42. Are the Paintings to be Fresco or Oil?
That is a Point not yet determined.

43. Would not a very different Degree of Heat be required to preserve Fresco Walls and Oil Paintings?
In both Cases it would be necessary to provide against Damp.

44. Would more Heat be necessary than merely what would suffice to provide against Damp?
Not absolutely necessary; but the Heat would be of a very comfortable Temperature.

45. Would it be necessary to have the Temperature more raised than a Gentleman has it in his Drawing Room or his Dining Room, where he has Pictures?
No.

46. Do People have a very great Degree of Heat in their Dining Rooms in the Morning in Winter?
No. I assume that a great Degree of Heat is not necessary.

47. What Degree of Warmth should you say would be necessary to preserve the Pictures and Ornaments?
It would be desirable perhaps to keep it up to the Temperature of 56° to 60°.

48. What Part of the Works do you consider would be most injured and most endangered by finishing the Houses by the next Session of Parliament?
The whole of the necessary Fittings.

49. Do you allude to the Ceiling?
No; those Fittings which consist of Wall Framing, of Seats, of Screens, Doors, &c.

50. The Expense of repairing would not be very great at a future Time?
It would be impossible ever to repair them so as to be as perfect as in the first instance.

51. The Pannelling is what is called the Linen Pattern, is it not?
Yes.

52. That is very simple and plain; nothing can be more simple than that. There would be no Difficulty in executing that?
No. That is a very small Proportion of the Decoration.

53. The Seats cannot be any very great Difficulty. They, of course, will all be covered?
That does not follow. I am not aware that there is any Order or Regulation which prescribes that they shall be covered.

54. Do you not contemplate that they will be covered?
If by that is meant the Seat itself, unquestionably that would be covered; but it is worthy of Consideration whether the Back should be covered with Cloth, or whether it should be left open. I think the House would be much less hot and stuffed up if the Backs were left open.

55. As they are in the House of Commons?
Yes.

56. Do you think there would be any Difficulty in doing them so that they should not suffer from any Damp inside the Walls?
There would be a Risk that the Work would warp and split. Evils of that Kind would be sure to happen.

57. Are

57. Are there not Ways of making Pannels so that they need not fly, by leaving Room,—by leaving them open at the Back, —which perhaps is the best Way?
Yes; but notwithstanding all those Means the Pannels will shrink and expand.

58. But such Pannels as you are now speaking of might be put in hand immediately?
They might, and they are intended to be so.

59. Might not a great Quantity be made in Three Months?
A good deal of Time will be required to execute them properly.

60. Are you not aware that a Theatre has been built, and a Play acted in it, within Six Weeks and a few Days of the laying of the Foundation Stone?
That may be very true; but I should be very sorry to put such Work in the House of Lords as is often put in a Theatre.

61. But there is a great Difference between Six Weeks and Fifteen Months?
That Difference would be made up by the Nature of the Work, and the ornamental Character of it, because there will be a vast deal of carving by Hand, which is seldom, if ever, met with in a Theatre.

62. But this ornamental Work will be done all in Compartments?
Yes; it will be done in Compartments.

63. So that a great Number of Hands and very different Persons altogether might be employed in the different Portions?
A great Number of Hands might be employed; but it would be difficult to find a great Number of sufficiently skilful ones.

64. Is there any Difficulty in pannelling the Doors or Wainscot?
No.

65. The only Difficulties here are the top Pannels?
Yes. As regards the Wall Framings, in the Doors, Screens, &c., there will be also a good deal of Carving which will require considerable Time to execute properly.

66. As to fitting up the Seats, the Seats in the Plan are divided into Forty, each of which is Fourteen Feet long?
Yes.

67. Each of these Seats will be made separately?
Yes.

68. Then if One could be finished by the 1st of next February, could not the whole Forty?
Yes; if a sufficient Number of skilful Hands can be found, unquestionably they might. The Committee will very soon have an Opportunity of seeing the Specimens of the Carving that have been delivered for Exhibition in St. James's Street, and they will then be better able to judge.

69. In the same Way with respect to the Doors; the Doors will be folding Doors, will they not?
Yes.

70. Then, in the same Way, if a proper Number of Hands were employed, if One Door could be done the whole might be done by the 1st of next February?
Yes; if a sufficient Number of skilful Hands could be procured.

71. How many Doors will there be to the House?
Five double Doors on the Floor of the House, besides the Door at the Back of the Throne.

72. And there are some more in the surrounding Corridors?
Yes; as many more at the least, in the surrounding Corridors and Galleries.

 73. Do

C. Barry, Esq.

21st March 1844.

73. Do you think it would not be possible to find a sufficient Number of skilful Hands for the Execution of those Works by the 1st of next February?
Yes; I think it is possible they might be executed before the Month of February next.

74. Have you a Drawing of the Doors?
No.

75. Have you a Section of the Interior of the House?
No. I thought it quite unnecessary to bring it, as the Model is before the Committee.

76. You are talking of the lower Part of the House. We have neither a Section, nor is it in the Plan?
That I could show the Committee when the Drawings are completed, which will be the Case, I expect, in about a Fortnight or Three Weeks. But if the Committee are thinking of any Alteration in the Design of the House it would be better to defer going on with these Drawings.

77. Are the Committee to take the Plan as exactly what is intended?
As far as it goes, they are. After Easter I shall be in a Condition to lay before the Committee, I hope, the whole of the Details of the Fittings of the House; but I cannot undertake to be responsible that they will be ready by next February. All I can say is, that no Effort shall be wanting on my Part in expediting them, and I am in great Hopes that by the Month of February they will be all ready; but they will take a considerable Time to fix.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned.

Die Veneris, 26° Aprilis 1844.

The EARL OF SHAFTESBURY in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

Lord Sudeley.

26th April 1844.

The LORD SUDELEY, a Member of the Committee, is examined as follows:

78. WERE you One of the Commissioners appointed to decide upon the Merits of the Designs for the Houses of Parliament?

I was One of the Commissioners appointed to consider and determine upon the Merits of the various Designs put into the Hands of the Commissioners by the Competitors for the Honour of building the Houses of Parliament.

79. As a Commissioner, did you recommend, in connection with the other Commissioners, the Selection of Mr. Barry's Plan?

I did.

80. In performing that Duty did you make yourself Master of the Details of that Plan?

I believe I did, perfectly.

81. You are acquainted also with the actual Plans which are now in the course of Execution?

Perfectly.

82. Are you able to call the Attention of the Committee to any Variations which may exist between the original Plans, as approved by you as a Commissioner, and the Plans which are now in the course of Execution?

I am. But it will be necessary to preface my Answer to the Question with One or Two Observations. In the first place, I have not investigated any Part of Mr. Barry's Plan but what comprehends the House of Lords and the Offices attached to it; in short, all the Buildings lying to the South of Saint Stephen's Hall in a direct Line from the River. And I must observe, in Justice to Mr. Barry, that it never was the Idea, the Expectation, or the Wish of any of the Commissioners that Mr. Barry should be confined to the Plan that we approved of; because in our Report, although we stated that the Plan of Mr. Barry as a Design altogether was One that we most approved of, yet still we knew full well that it was susceptible of great Improvement, and we recommended to the Crown that some Alterations should be made, which in consequence were subsequently adopted, but they were of trifling Importance.

83. Was it your Recommendation that Improvements, implying Alterations of the Plan, should be made, without any Reference to you for your Approval?

Certainly not.

84. Was it your Intention that those Improvements should be submitted to you severally?

I can hardly say that. We knew nothing of the Plan from the Moment the Alterations alluded to were made. We were functi officio from the Time when our Report was made.

85. Then you left it with the Intention that Alterations should be made in the Plan; but to whose Approval were those Alterations to be subjected?

I knew not that they were subjected to any one's Approval in particular. That rested with the Government. But the Examination of the Commissioners before the Committee of the House of Commons will show we expected many to be made. The Question was asked by Sir Robert Peel, "Was not your Selection of the Four Plans founded on a combined Consideration of the Beauty of the Exterior, and of the Convenience of the Accommodation?—

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Certainly. And your Selection of Mr. Barry's in preference to the Three others founded on the same Consideration?—Yes, it was. Disregarding for the Moment the Beauty of the Exterior, was there any Plan of the whole offered to you that was equal to Mr. Barry's in point of Accommodation and Convenience?—I should say that there were. That there were some equal?—Yes, quite. You consider still there are material Improvements that may be made in Mr. Barry's Plan, as to the Interior, in addition to that which you have suggested?—No doubt many may be made, and without the least Injury to the external Beauty of the Design. You think that Mr. Barry's Plan is capable of being made, with the Improvements you have suggested, and the additional Improvements that it may still receive,—you think Mr. Barry's Plan is capable of being made at least as good as to interior Arrangements exclusively as any Plan which has been submitted to you?—Certainly; I have no Hesitation in saying so. Do all the Commissioners agree in the Question that was put, that suppose Mr. Barry's Plan were adopted it might be made equal in its interior Arrangements to any other Plan which they had before them? Mr. Tracey has said that that is his Opinion, and it is important that we should know whether the other Gentleman agreed with him in that Opinion?—*Sir Edward Cust.* I should be glad to say, in answer to that Question, that I perfectly coincide in every Word that I have heard fall from Mr. Tracy, and had I not done so I would have taken the Liberty of putting forward my Opinion, as I have ventured to do upon these Points in which I thought there was any thing omitted, to justify my Inference.—*Mr. Liddell.* I entirely agree with every thing that has passed.—*Mr. Vivian.* My Opinion is also decided on that Point." After reading this Evidence, I think it must be clear to your Lordships that we expected great and important Alterations to be made; but more particularly because subsequently to that Plan being decided upon a great Extent of Area was added to the Site, which if made the best of would have considerably improved Mr. Barry's Plan. I beg now to call your Attention to the original Plan, and to point out to your Lordships what was approved of by the Commissioners, and what was not. Your Lordships will see that the King was to enter the Tower from the West, and turning round a Pillar was to be set down at the Foot of the Stairs immediately on the West, and the Royal Carriage to make its Exit by the Gateway on the South. The King was then to ascend the Stairs to what was called the King's Gallery; from thence, turning to the Left, was to pass through the King's Gallery and the King's Ante-gallery to the Robing Room, which is immediately behind the House of Lords. Such, your Lordships will observe, is the Plan before you; in which the Corridors and every Convenience are well considered and attended to. There is no Part of the Buildings that is not well lighted and connected; and to this Part of the Plan as a Commissioner I saw no Objection but One, which I often urged to Mr. Barry, and that was to the Victoria Tower itself. I thought it next to impracticable for the great State Carriage to enter into that Tower, and turn round the Pillar, with its immense Length, and without Inconvenience get out of the Gateway by the South. That was the only Objection I raised to that Part of the Plan. I urged this Objection to Mr. Barry several Times. We did not agree in opinion; but I now find that that Part of the Plan is materially altered. Had it been arranged as it is now I should have had no Objection whatever to that Part of the Design. But I have observed the Area has been greatly increased from the Tower to Westminster Hall. We might, therefore, have reasonably expected that the Plan would be greatly altered and greatly improved even from that Circumstance alone.

86. Then your Objection to what has been done is, not that there has been an Alteration, but that that Alteration, considering the Increase of Area, has not been sufficiently effectual to accomplish its Purpose?

Yes. I object to the present Plan, because I think it is not nearly so good a Plan as the One before you; and, secondly, I object to it because the Architect has not carried out his own Idea in the best possible Manner. But perhaps I had better now explain the second Plan, taken from the Illustrated London News, and which is now being carried into execution. The Committee now perceive that the Queen will enter the Victoria Tower precisely as she did in the former Plan, but, instead of going round a Pillar, the Royal Carriage will now

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now pass through the Tower, and under the Queen's Robing Room, into the Royal Court. Your Lordships will recollect that the Plan before you is not that of the Basement, but the principal Floor. The Royal Carriage drives through the Tower, the Queen is set down on the Left-hand Side, and ascends a Flight of Nine Steps to the First Landing; She then ascends Three Steps to the Second Landing, when, turning to the Right, She has to ascend a further Flight of Twenty-five or Twenty-six Steps into the Lobby; from the Lobby She enters the Victoria Gallery, and thence into the Robing Room on the Right, and from the Robing Room proceeds through the Victoria Gallery to the House of Lords. Such is the present Plan of Mr. Barry executing at this Moment. Now my Objection is to every Part of this Plan except the Tower, which is very much improved. But I leave it to your Lordships to consider whether the Stairs is a fitting One, even for a common Mansion. An Ascent of Five or Six and twenty Flyers without any Landing is inconvenient, and any thing but ornamental. Your Lordships can scarcely supply any Instance of that in any Mansion where Appearance has been studied.

87. Are the Steps Six Inches?

Six-Inch Steps, as I am informed; but if they were Four and a Half, or Five, I should still object to it. I am not aware of any Instance of a Mansion in which Ease, Beauty, or Convenience has been considered where there is any such objectionable Ascent to be met with.

88. Would it be practicable to alter this?

I will show the Committee presently that in my Opinion it is. My next Objection is, that in the Lobby, on looking at the Plan, you will observe that in the Centre of it there is a Pillar, intended for groining the Ceiling; at least I presume so. If a Line is drawn from the Centre of the Stairs to the Centre of the Door it will be seen that the Pillar stands directly in the Way of the Peers Approach. I now come to the Victoria Gallery itself. I object to the Victoria Gallery on several Accounts. There was a Gallery, but that was of very different Character; that was literally a Gallery; whereas I contend that this is neither one Thing nor the other. It is too short for a Gallery in proportion to its Width, and it is too long for a Hall. Therefore, as a Matter of Taste, I object to its Proportions. But that is not the only Objection. It deprives the Queen of Her Robing Room immediately adjoining the House of Lords. Another very important Point is, that in consequence of this Gallery there will be a continuous Roof from the House of Lords to Little Abingdon Street. The Roof will be from 90 to 100 Feet in Height; contrary to Mr. Barry's own Principle, as stated in his Prospectus or Paper which he delivered with his Plan; for he there observes that he has carried up the Houses of Parliament greatly above all the rest of the Buildings, for the Benefit of Air and Light. Now I need not observe to your Lordships, that both the Light is obstructed and the Air is impeded by this Arrangement. Besides, we shall be deprived at one End of the House of Lords of the Power of lighting it, if it should be required. Then, as I before observed, the Queen is deprived of Her Robing Room immediately behind the House of Lords; the very Situation which Mr. Barry himself by his former Plan recommends that it should be placed, but which has since been altered. In fact, as it appears to me, every thing has been sacrificed to this Victoria Gallery. There is no Communication whatever from North to South, or from East to West, except through this Gallery. And if there was no other Objection to it, the Circumstance that the Gallery must be lighted and must be ventilated the same as the House of Lords throughout the Year, although it would otherwise be required to be used only on State Occasions, would be a sufficient one.

89. You are aware that it was stated by Mr. Barry that it would be necessary to keep up a certain Temperature on account of the Fresco Paintings?

If the Buildings of the Houses of Parliament are meant for the Fine Arts, I think then that Mr. Barry's Observation may be perfectly right; but I consider the Houses of Parliament as built for no such Object; that the Fine Arts ought to be called in to embellish the Houses of Parliament, and that no necessary architectural Arrangement shall be sacrificed for their Display. I have

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now endeavoured to show the Difference between the Two Plans, and I believe I have stated all the Objections I have to the present one.

90. Are there any other Differences besides those you have mentioned?

There is. The Plan is all re-cast. The Committee will see that in my Evidence, in answer to Sir Robert Peel, Reference is twice made to Alterations that might take place, in addition to what the Commissioners had suggested. Now the Word "suggested" requires some Explanation, because it might naturally be supposed that when the Commissioners were suggesting some Alterations, they might as well have suggested others as well as those they did suggest; but the Reason was this, we confined our Objections entirely to such Parts of the Elevations and the Ground Plan as might be altered without any re-casting of the Plan.

91. Assuming the Plan to be substantially preserved?

Yes; because we thought we should do Injustice to the others if we went upon any other Principle than that of removing actual Objections.

92. You preserved in each Case the principal Plan, and suggested Alterations in the Detail?

Precisely so. There is One great Objection to this Plan which does not apply to the Original. Your Lordships will observe that there are no Corridors from one End of the House to the other along either Side of the Victoria Gallery.

93. Were there in the old Plan?

There were. It may perhaps appear to be Vanity in me to state to your Lordships that I think I see a Remedy for this Evil. No doubt Mr. Barry could find a much better one than I can suggest. At the same Time it is necessary, before I state what it is at all, that your Lordships should be convinced, with me, that there is an Inconvenience demanding a Remedy. If you are so convinced I will lay before you a Plan of the Alteration I would suggest. (*His Lordship produced another Plan.*) The Victoria Hall, according to this Alteration, is, although not so long, in my Opinion a very fine Room. It is 100 Feet long by Forty-five.

94. You have made it avowedly a Hall, and not a Gallery?

Avowedly a Hall, and not a Gallery.

95. Would you light this Victoria Hall by Skylights?

It may be done by a Skylight, if it is necessary; but it is unnecessary, because there are sufficient Means of lighting it without having recourse to any.

96. You make the Ascent much more gradual?

Much more gradual; and there are Two additional Landings.

97. Have you any other Observation to make?

I am not aware of any, except upon One Point. I am very sorry that this Investigation should take place at the Eleventh Hour. These Plans ought to have been settled Years ago. It is going on Nine Years since the Commissioners made their Report. From that Hour, until lately, I have never seen the Plan. During the Easter Recess I was anxious to see how Matters stood, for as the Buildings grew up I perceived that many Alterations had been made, and having obtained a Copy of the Plans, by which I became better acquainted with the Intentions of the Architect, the Result of my Observations I have laid before your Lordships. I have only now left to state to you the Situation of the Work when I last looked over it, and to request your Lordships to attend to the Plan. I went to the Top of the Walls of the Victoria Gallery, which are raised to the Line of the Floor of the House of Lords, the Heads of the Windows of which to the West were nearly set, and the Windows to the East going on very rapidly, and I have no doubt that in the course of another Month we may consider that the Walls will be fit to receive the Roof. With regard to the Corridor that immediately adjoins the House at the Back of the Throne, I found that there the Springers for the groining of the Roof had been set. All on the South Side of the Buildings, barring the River Front, which is now roofing, is in the same State of Forward-

ness;

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ness; some Parts of it rather more advanced than others. Of the Staircase, I regret to say that the Side Walls are nearly up to the Flooring of the Victoria Gallery, and therefore if any Alteration takes place in those Stairs that Part of the Building must be taken down.

98. Taken down to what Extent?
To no very great Extent, and when we are expending near a Million the Cost of such an Alteration is not worth a Consideration. It is, however, a great Pity, that from the advanced State of the Work we are placed in this Position, that we must either put up with what we consider a Defect in the Plan, or pay the Expense which its Removal may occasion.

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CHARLES BARRY Esquire is called in, and further examined as follows:

99. THE Committee understand that there have been considerable Alterations made in the Plan which was submitted by you to the Commissioners, and by them approved, in the Year 1836. Will you be kind enough to state what Authority was given for making those Alterations?
There have been no Alterations in the leading Features of the Plan; the Alterations have been principally in the Details.

100. Those Alterations which have been made, have they been made by any Authority or not?
No; upon my own Judgment.

101. Without any Authority?
Without any Authority.

102. Before being made were they described to any Person?
To no Person.

103. Neither to the Commissioners, nor to the Woods and Forests, nor to the Government?
No.

104. Do you consider the Alteration you have made in the King's Gallery, and the Erection of the Victoria Gallery, according to the present Plan, a mere Alteration of Detail?
Yes; because there was an Approach by means of a Gallery in the original Plan, but not of the Dimensions now proposed.

105. Were not the Two totally different?
Yes, in respect of Size.

106. There was nothing that could be called a Gallery before?
I can hardly speak from Recollection accurately, because I have not the original Plans by me.

107. Is not the Staircase totally different now from what it was before?
I believe it is.

108. Is not it now a Staircase of Twenty-six Steps without a Landing Place?
I believe it is, but I speak from Recollection only.

109. The Queen's Robing Room was, in the First Plan, close by the House of Lords?
Yes. There was a Room at the Back of the Throne called the Robing Room.

110. And now it is made at the End of a long Gallery 140 odd Feet from the Throne?
Yes.

111. Are you aware of the Inconvenience of any Person going that Distance under the Weight of heavy Robes?
I have understood from Lord Shaftesbury that this Arrangement would be inconvenient; but there would be no Difficulty in getting a Robing Room close to the Throne.

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112. The Stairs have been altered leading from the Victoria Tower?
Unquestionably, and greatly improved.

113. In what respect do you hold it to be an Improvement?
In all respects. It would be difficult to explain, without Reference to the original Plan; but I can undertake to say that every Alteration that has been made is in many respects a considerable Improvement.

114. Is not a Flight of Twenty-six Steps without any Landing-place rather a Novelty?
No. Its Convenience depends very much upon the Rise of the Steps. If they are made as these Steps are proposed to be made it would not be attended with any Inconvenience.

115. Is it not an Objection to the Beauty of a Staircase of that Sort that there should be Twenty-six Steps without any Break?
If the Width is proportioned to the Length of the Flight, I do not conceive that that is any Objection.

116. Can you give any Example of it?
The Palace at Caserta strikes me as One Instance of it. Many Staircases at Rome and in other Parts of Italy are of very considerable Length. The Scala Regia in the Vatican, for instance, has Forty Steps in One Flight.

117. What Height do you propose the Steps to be?
I think the Steps are $4\frac{7}{8}$.

118. What do you conceive to be the Advantage of the Alteration with respect to the Stairs?
I can hardly answer that Question, without Reference to the original Plans, which I have not by me; I do not sufficiently recollect the Detail.

119. Were there not original Instructions given to you as to the Interior of the House of Lords and the different Rooms adjoining by a Committee of the House?
Yes.

120. Have you got those Instructions here?
Yes, I have a Copy of the Instructions.

121. Will you have the kindness to hand them in?

The same are delivered in, and are as follow:

"STATEMENT of DIMENSIONS of the ROOMS and OFFICES required for conducting the BUSINESS of the HOUSE of LORDS.

"HOUSE OF LORDS.

"That the House should be capable of containing 300 Peers on the Floor, Two Feet being allowed for each Peer, and that the Space occupied by each Row of Benches should not be less than Three Feet.

"That the same Space be allowed below the Bar and for the Throne as was allowed in the House now occupied by the House of Commons.

"That the Breadth of any new House to be erected should be such as to admit of One Row of Benches on each Side, in addition to those which existed in the Room lately occupied by this House, now occupied by the House of Commons.

"That a Lobby be provided for the Members of the House of Commons and other Persons waiting to be called in, of not less than about Forty Feet by Thirty, opposite the Centre of the great Door, and a Hall outside of the said Lobby.

"That a Passage be provided leading round the Outside of the House, and communicating with the Lobbies and the Gangways in the House.

"OFFICES.

"OFFICES.

Offices, Particulars of.	Apartments required.	Size in Feet by Feet, not less.	Square Feet.
Public Rooms.			
His Majesty	Robing Room	36 by 24	
Committee Rooms	Two	38 by 24	
	Four	33 by 24	
Waiting Rooms for Witnesses	Four	18 by 18	
Peers Robing Room	One	36 by 24	
Waiting Room to Do. for Parties	One	18 by 18	
And Witnesses Waiting Room	One	30 by 20	
	Near the Peers Entrance.		
Cloak Room	One	18 by 18	
Peer's Servants	One	20 by 30	
	One (Bishops Servants)	18 by 14	
Coffee Room or Refreshment Apartments	One	24 by 24	
	One (Dining Room)	24 by 24	
Kitchen and Convenience	Kitchen, Scullery, Larder and Pantry, Bar, Cellars for Wine and Beer, Coals and Wood	In accordance.	
Library	Two	60 by 30	
Adjoining Room	One	30 by 30	
Vote Office, or Room for printed Papers	One as near as possible to the House	18 by 18	
Masters in Chancery	One	14 by 18	
Counsel attending the House	One	24 by 18	
Agents and Solicitors	One	24 by 18	
Witnesses	One	24 by 18	
Marshalmen, near the Peers Entrance	One	16 by 16	
Guard House (detached), for Officers, Non-commissioned Officers, and Men of His Majesty's Guard of Honour. It should not be a temporary Building. The Rooms required are: One for Officers, Three in Number; One for Privates, One hundred in Number; being the usual Guard of Honour.			
For Conferences with the House of Commons	One	48 by 25	
For private Interviews	Two	16 by 16	
Four Galleries, with separate Access to each. One, to contain One hundred Members of the House of Commons and distinguished Individuals; One for Strangers, to contain One hundred and fifty Persons; One separate Gallery, to contain Forty Persons; One separate Gallery, to contain Twenty-four Persons.			
Rooms behind each Gallery	Two	20 by 20	
	One	20 by 20	
	One	15 by 15	

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Offices, Particulars of.	Apartments required.	Size in Feet by Feet, not less.	Square Feet.	
Officers of the House of Lords.				
For the Lord Chancellor	One Room	20 by 20		
	A Dressing Room and Conveniences	12 by 12		
His Lordships Officers	One Room	18 by 18		
	One Dressing Room and Conveniences	16 by 12		
The Sealer	One	12 by 12		
The Earl Marshal	One	20 by 20		
The Three Archbishops	One	20 by 20		
The Twenty-four Bishops	One	30 by 24		
Messenger	Ante-room and Conveniences	16 by 16		
Chairman of Committees	One	20 by 20		
	One Dressing Room	12 by 12		
Deputy Speaker	One	20 by 20		
Clerk Assistant	One	18 by 16		
	One Dressing Room	12 by 12		
Additional Clerk Assistant	One	12 by 12		
Reading and Committee Clerk	One	12 by 12		
Assistant Reading and Committee Clerk	One	18 by 16		
Clerk attending the Table of the House	One	10 by 10		
Collector of Fees near the House or Lobby	One	12 by 12		
Black Rod.				
Gentleman Usher	A Residence. (See the 12th Resolution.)			
Yeoman Usher	One Dressing Room	16 by 12		
Resident Doorkeeper and Receiver of Peers Letters	One Sitting Room	16 by 16		
	One Bedroom	16 by 16		
	One Servants Bedroom	12 by 12		
	One Kitchen, Pantry, &c.	16 by 14		
Stores and Stationery	One	18 by 10		
In the Department of the Serjeant at Arms.				
For the Serjeant at Arms	One	12 by 12		
His Deputy	One	12 by 12		
Doorkeepers to dress in who live apart from the House	One	18 by 14		
Librarian	One Bedroom	25 by 9	In connexion with the Library, and separately approachable from the public Way.	
	One Sitting Room	26 by 19		
	One Do.	26 by 18		
	One Servants Room	17 by 12		
	One Kitchen and Pantry	25 by 13	The actual Space allotted by the House of Lords in 1828, and since occupied by the Librarian.	
	Housemaids Closet	19 by 4		
Housekeeper	One Sitting Room	16 by 16		
	One Sleeping Room	16 by 16		
	One Servants Room	12 by 12		
	One Kitchen	16 by 14		

Offices, Particulars of.	Apartments required.	Size in Feet by Feet, not less.	Square Feet.
Parliament Office.			
Clerk of the Journals	One Room	18 by 14	
Other Clerks	One	26 by 18	
Copying Clerk	One	18 by 14	
Clerk of Engrossments	One	20 by 18	
General Business of the Office, to hold Four or Five Clerks each	One	28 by 25	
	One	24 by 20	
Also Three Rooms required on the principal Floor of the House		20 by 15	
For Examination of Papers ordered to be printed, and other Papers	One	16 by 16	
Clerk employed in the Receipt and Distribution of printed Papers	One	23 by 21	
	One	28 by 20	
Fire-proof Repositories for Papers and Documents	Two, each not less than	100 by 40	
Clerks engaged in the Indexes	Two	16 by 16	
Distribution of Journals	Two	24 by 21	
Messenger	One	12 by 12	
Lord Great Chamberlain	One	18 by 15	
	One Dressing Room and other Conveniences	10 by 10	
	An Office	24 by 21	
Messenger	One	12 by 12	

122. Have you ever received Instructions since those?
None whatever.

123. Neither from the Commissioners nor from the Woods and Forests?
None whatever.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Monday next, Three o'Clock.

Die Lunæ, 29° Aprilis 1844.

The EARL OF SHAFTESBURY in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

C. Barry, Esq.

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CHARLES BARRY Esquire is called in, and makes the following Statement:

BEFORE your Lordships proceed, I would beg to state, that, as at the last Meeting of the Committee there appeared to be an Impression on your Lordships Minds that I was open to Censure for Deviations made from the Plan originally adopted by Parliament, I have since drawn up a Paper containing an Explanation of the Circumstances, which I beg to hand in as Evidence.

He is then examined as follows:

124. Have those Instructions to which you allude as approved by Parliament had Reference to the sealed Plans that were delivered to you; the Plans sealed in the Presence of the late King?

No. But the Inquiry which I wished to make of your Lordships is, whether the Questions put to me at the last Meeting had Reference to the sealed Plans; that is, the Plans approved by the Commissioners; for if so I was in error in the Answers which I gave. On perusing my Evidence, I suspect that they applied to the original Plan approved by the Commissioners.

125. Since the first Plan was drawn an Extent of Ground has been added; what is the Extent of Ground taken in between the Victoria Tower and Saint Stephen's Chapel?

The Building itself has been increased 100 Feet, or nearly so; but the Site is extended nearly 200 Feet in that Direction.

126. What Extent in the Direction of East and West has been added to the Site?

None at all, except at the North-east Angle, occasioned by making the Embankment in one straight Line, which was not originally intended.

127. Has not a great Quantity of the River been taken in since the Plan was first formed?

No; not more than Forty-four Feet at the North-west Angle, diminishing to nothing along the Line of Embankment at a Distance from that Angle of 270 Feet.

128. There has been a great Extent taken in from North to South, and a great Extent taken in from East to West?

Yes, from North to South, but not a great deal from East to West. May I be again permitted to say, that upon perusing the Evidence I offered to your Lordships at your last Meeting I fear that I have misunderstood the Questions with reference to the Plan to which they related? Before I proceed, therefore, with my Explanation, I should wish, in order to remove all Misapprehension, to inquire of the Noble Lord who was One of the Commissioners who selected the Plan for Adoption, whether the Plan which I now produce, and which bears his and other Signatures, is the Plan to which your Lordships Questions referred.

Lord Sudeley.—That is the Plan. It has my Signature.

Mr. Barry.—Then if that is the Plan to which your Lordships Questions referred, I beg to state that it is not the Plan that was approved and ordered to be carried into effect by Parliament, which Plan is here, and will be found to be altogether at variance with the Plan selected by the Commissioners, but

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to be generally in accordance with the Building as it is now being executed. That whereas in the Plan selected by the Commissioners the River Front is 780 Feet in Length, the average Depth of the Building from East to West is 270 Feet, and the Area covered is Five and a Half Acres: in the Plan approved by Parliament the Length of the River Front is 880 Feet, the average Depth of the Building from East to West is 335 Feet, and the Area covered is Seven and a Half Acres.

129. The first Departure from those sealed Instructions was by the Authority of a Committee of Parliament?
By the Authority of Committees of both Houses of Parliament.

130. Where are the Plans of that Alteration?
I have them here.

131. Are these the precise Plans which are being executed?
Not precisely; but in the main Features they are. But the Paper I have prepared will give the whole Explanation.

The same is read as follows:

My Lords,

At my last Interview with the Committee I admitted that Alterations had been made without Authority, but I must beg of your Lordships to bear in Mind that this Admission extends merely to the Mode in which they have been effected, as they have generally been the Consequence of express Orders received from Government. Your Lordships must, I am sure, upon Reflection, be convinced that the original Design recommended for Adoption by the Commissioners for a Building of such extraordinary Magnitude and Complication of Detail as the new Palace at Westminster, could, in the first instance, (for Want of all the practical Information requisite, and the Time necessary to devote to the Study of it,) consist only of leading Principles; and although this Design, after the Commissioners had made their Report upon it, and the Commission had ceased to exist, underwent a very considerable Modification and Enlargement, in consequence of the Suggestions of the Committees of both Houses before whom it was laid, yet the Time allowed to me for effecting the Change was far from sufficient to enable me to improve it as much in Detail as I have now been enabled to do, from the continued and deep Study which I have ever since devoted to it, aided by the Information which I have been able from Time to Time to collect from the Heads of Departments and other Officers connected with the practical working of the Business of Parliament. The modified Design which was ultimately adopted by Parliament, by the Recommendation of the Committees of both Houses, was therefore still in a crude State, as regards many of its internal Arrangements; and as upon being ordered to carry this Design into effect I was not instructed to adhere strictly to the Details of it, I conceived that it was intended by the Government that I was to be left at liberty to improve them as much as it was in my Power, provided I did not depart from any of the leading Principles and Features of the Design, diminish the Accommodation and Convenience of the Building, or cause any ultimate Excess in the estimated Cost; and in the Correctness of this Impression I have ever since been confirmed, inasmuch as that whenever I have been required by the Government to make any Addition or Alteration in the Building I have never been called upon to deliver any Plan to show in what Manner I proposed to effect it. In all the Alterations which I have made in the internal Arrangements of the Building which have not been the Consequence of express Orders given to me by the Government I have strictly adhered to the Conditions to which I have adverted; and in all those which have been expressly ordered by the Government I have invariably delivered Estimates of the extra Cost, previous to receiving Authority to execute them. With regard to the latter Class of Alterations, I beg to observe, that, in the first place, I was required to make the necessary Arrangements for the new System adopted by Parliament for warming and ventilating the entire Building, which alone have caused many serious and important Changes; then to provide Accommodation for the A Division of Police, then to provide a Residence for the Librarian of the House of Commons subsequently, to provide a Residence for the Clerk of the House of Commons, then to provide Accommodation for the Clerk of the Crown, and, lastly, to make Arrangements for the whole of the public Records of the Kingdom, and their future Increase, together with the requisite Accommodation for the Establishment connected with them. All these Orders alone have necessarily caused very important Changes in the Distribution of the Building, and have been the Consequence of many others.

Your Lordships can scarcely, I think, be aware of the enormous Extent of Labour, Responsibility, as well as Anxiety of Mind, which I have to endure in conducting this great National Work, in which, when complete, if there should be any thing faulty I shall be sure to be visited with the entire Blame. I am not, however, disposed to shrink from the almost appalling Task imposed upon me, as I am firmly persuaded that all great Undertakings are best accomplished under an undivided Responsibility. On the contrary, I am ready,

ready, as I have hitherto ever been, to devote the best Energies of my Mind to the Perfection of a Work which it is my earnest Desire to render an Honour to the Country; but unless I am supported, nay, encouraged, in the Performance of my Task, by the cordial and kind Support and Indulgence of your Lordships, and all who are interested in the Success of this, the greatest Undertaking of the Kind of the present or any former Period, it is quite clear to my Mind that it cannot be brought to a satisfactory Termination.

132. You mention that you departed from the Principle on which you set out. Was not it a Recommendation which you gave to the Commissioners, in your Statement to them of the Principles of your Plan, that the Two Houses of Parliament should be carried up much higher than any of the surrounding Buildings, for the sake of Air and Ventilation?

I have not said that I have departed from the Principle upon which I set out. Not having the original Plans and the Memoranda I delivered, I am not able with Confidence to answer the latter Part of the Question; but I will refer to a Paper which I hold in my Hand, in which is detailed the Principles on which the original Plan was formed, and which, I imagine, will answer the Question. The Passage referring to the Houses is this: "That the Situation of the Houses be in the Centre of the Mass of the proposed Building, for the sake of Convenience, Quietude, and Freedom from all Disturbances from the Exterior; that all the Lobbies and Corridors adjoining them be only One Story high, to admit of the Houses being well lighted and ventilated, also for affording the Means of making them of the Forms and Size best suited to the Wants of each House, without interfering with the Unity of Character maintained throughout the Exterior." That is the best Answer I can give to your Lordship's Question.

133. In the Plan, as you are now executing it, that Principle will not be maintained, because it is intended to have the Victoria Gallery of the same Height as the House of Lords?

It is intended to be so; but laterally the House will be above its adjoining Corridors. Perhaps I may be allowed to state why it is that the House is not perfectly insulated; that is one of the Changes which has been brought about by the Arrangements absolutely necessary for the warming, ventilating, and carrying off the Smoke of the Building.

134. Are the Committee to understand you, that the Victoria Gallery has been carried up to as great a Height as the House of Lords itself merely for the sake of Ventilation?

No; not merely on that Account. That is only One of the Reasons which has induced me to carry it up to that Height.

135. What is the other?

The other Reasons I will explain to your Lordships. Exercising the Discretion which I have always done, within the Limits before adverted to, as to the internal Arrangements of this Building, I will proceed to point them out to your Lordships on the Plan adopted by Parliament.

136. Is the Plan you have just shown precisely that now shown to you which was approved by the Committee?

Yes, I apprehend it is, as it appears to be a Copy; but, whether it is or is not accurate as a Transcript of the Plan put before the Committee, I beg to say that this Plan which I now produce is the identical Plan approved by the Committee, and from which the Estimates of the Building have been made. Referring to the Plan sanctioned by Parliament, I will now state to your Lordships the Reasons which have induced me to raise the Victoria Gallery. The Objections to the State Entrance in the Plan adopted are as follow: Loss of Space in the principal Floor by the Height of the Inner Hall; Loss of Space in the Passage to the Refreshment Rooms; Inconvenience of Situation of Refreshment Rooms; Difficulty of accommodating Spectators to witness Processions on the Staircase; Necessity of lighting Inner Hall by Lantern, rendered impossible by means of ventilation Arrangements; Impossibility of duly lighting transverse Corridor at Head of Stairs, as well as the Robing Room at the Back of the Throne, in consequence of the ventilating Arrangements in the Roof; Want of a large Hall adjoining the House, as in all former Houses, for the Convenience of Peers on great public Occasions, the Commons being much better

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accommodated in that respect than the Peers. These appear to me to be the Objections that applied to this Plan.

137. When did they first occur to you?
More than Eighteen Months ago.

138. Never till then?
I can hardly say as to what precise Period they first occurred to me, but the Alteration in the Plans was made from Eighteen Months to Two Years ago.

139. Did they occur to you before any thing had been done to execute that Plan?
They did.

140. But you never communicated them to any body?
Certainly not.

141. Why did you not; was there any Secret in it?
I have already stated the Reasons why I have not communicated the Details of this and other Changes to the Government; but the Plan exhibiting them has been deposited in your Lordships Library for more than Twelve Months. I will now state the Advantages which I suppose to accrue from the Alteration in question. First of all, a great Economy of Space, otherwise wasted; the Removal of the Refreshment Rooms to a more convenient Situation near the Libraries; the Acquisition of a Grand Hall of Approach, suitable to the Dignity of the House of Peers, and available for State Trials, which seems desirable, since Westminster Hall is now to become the main public Entrance of the New Palace, for the due Accommodation of Spectators in witnessing the Procession of the Sovereign to and from the House, for Conferences of the whole Houses, and for the Purpose of affording the Means of encouraging the higher Departments of Art in the Decoration of its Walls; the Acquisition of Two fine Rooms to the South on the principal Floor, being available either for the Queen's Robing Room and Ante-room, or, if the ordinary Entrance to the House be by the Victoria Tower, one might be for Marshalmen and others in attendance upon Peers, and the other for a Committee Room or Writing Room; also the Acquisition of several Rooms and other Accommodation on the Ground Floor for the Record Establishment. Those are the Advantages which I presume to accrue from this Alteration of Plan.

142. What have you gained by the additional Area you took in since the Plan was made?
The whole of this Accommodation is obtained without exceeding the Limits of the Plan; in point of fact it is obtained within the original Walls of the Building.

143. Are not those Walls extended?
Certainly not.

144. Not from the original Plan?
If I am to understand the Question to apply to the Commissioners Plan, there is no doubt that the Limits of the Building there shown have not been adhered to; but this Alteration has been made in the Plan which was approved by Parliament.

145. Notwithstanding you have got this additional Area to your Site, you could not make those Additions without making the Alterations alluded to?
I think that the Noble Lord does not quite recollect the Period when the Addition was made to the Site, which took place soon after the modified and enlarged Plan to which I have adverted was approved by Parliament.

146. The Alterations you are now speaking of had no Ground to seek?
None whatever.

147. In your Paper you say, "In all the Alterations which I have made in the internal Arrangements of the Building, which have not been the Consequence of express Orders given to me by the Government, I have strictly adhered to the Conditions to which I have adverted, and in all those which have been expressly ordered by the Government I have invariably delivered

delivered Estimates of the extra Cost previous to receiving Authority to execute them." What Authority was given by Government to execute any of the Alterations?

The Orders of the Commissioners of Woods and Forests.

148. When?
At various Periods.

149. In Writing?
Yes.

150. Can you produce those Authorities?
Certainly.

151. Do you mean to say that in all the Alterations you have made, except when you have had those Orders, you have adhered to the original Plan?
No; but in all the Alterations I have adhered to the Conditions to which I have already adverted.

152. You refer to these Words, "provided I did not depart from any of the leading Features and Principles of the Design, diminish the Accommodation and Convenience of the Building, or cause any ultimate Excess in the estimated Cost." Within that you conceived you might make any Alterations you thought fit?
Yes; I have made any Alterations which I considered desirable, provided they did not interfere with the leading Principles of the original Plan, or the Conditions before adverted to.

153. Is there any thing requiring to be undone if the great Flight of Twenty-six Steps were done away with?
Yes; it would be necessary to undo a Portion of the Masonry already fixed.

154. Can you give an Estimate of that?
Not without a Calculation.

155. How far has the Staircase proceeded already?
The Staircase Walls are both up to the Level of the principal Floor.

156. Can you not make a Conjecture what the Cost of that would be?
I had rather not make a Conjecture on such a Subject.

157. Have you measured more particularly the existing Levels of the Staircase?
Yes. I was about to report to your Lordships that I have done so, and I find, instead of Twenty-six Steps, as mentioned at the last Meeting of the Committee, there are Twenty-five Steps.

158. What is the Rise of each Tread?
Five Inches; the Tread is Sixteen Inches.

159. What Number of Feet is that from the Ground Level of the principal Floor?
The Number of Steps is Thirty-six at Five Inches.

160. Rather under Fifteen Feet?
Exactly Fifteen Feet.

161. Are you quite sure that that is the Level of the Floor?
Yes.

162. The Arches will not be higher than that?
The Arches of the Basement will coincide with that Level. On the Subject of the Staircase, as it appeared to be your Lordships Opinion that it would be inconvenient to have Twenty-six Steps in One Flight, I took the Liberty of stating at the last Meeting, that I did not think so; and I mentioned as an Instance the Palace of Caserta, as containing one of the finest Staircases which I had ever seen, where, in the First Flight, I find there are Twenty-seven Steps. The Scala Regia of the Vatican, acknowledged to be one of the grandest Staircases in the World, has Two Flights, each containing Forty Steps. In the

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University of Genoa there is a very fine Staircase containing Twenty-four Steps in One Flight. In the Ducal Palace at Genoa there is also a remarkably fine Staircase of Thirty-nine Steps in One Flight.

163. What Depth of Step?
Four Inches and a Half.

164. What is the Tread?
I cannot give that at the Moment; but I will furnish it to your Lordships if it is wished. The Spinola Palace at Genoa has a Staircase One Flight of which has Thirty Steps. The Collegio Romano at Rome has Thirty-six Steps. The Caprarola in its principal Staircase has Thirty-seven Steps in One Flight.

165. Are those Steps in your Staircase more than Fifteen Inches?
They are Sixteen; and in my Opinion, as far as I may venture to express that Opinion from my own Experience, for I have measured Staircases in all Parts of the World, I should say the most convenient Staircase of all is One whose Steps are Sixteen Inches wide and Five Inches thick; any thing less than Five Inches is apt to create a Trip; any thing more than Five Inches occasions Fatigue in mounting the Staircase; but in a Staircase whose Tread is Sixteen Inches and whose Rise is Five Inches it is scarcely any greater Effort to ascend or descend such a Staircase than it is to walk from one End of this Room to the other.

166. In all those Staircases to which you have alluded there is a great Height to be reached?
Yes.

167. That is not the Case here?
The Height is considerable here. There is no Difficulty in making a Landing in the Middle of this Staircase, and to divide the Flight; but if I am asked whether I should recommend such an Alteration, I should say decidedly not. For the Convenience of Processions which will have to pass up and down this Staircase, I should say that it would be more convenient to be in One Flight than to have that Flight divided.

168. You are understood to say that if you had the Power you would not make a Landing on the Staircase, supposing you could make it without any Injury to your Plan?
I would prefer to leave the Staircase as it is, and I will give this additional Reason amongst others. As your Lordships seem to attach great Importance to the Beauty of the Staircase, if a Landing was made in the Middle of this Flight there must be a Break in the Inclination of the vaulted Ceiling, and that would have a very awkward and unsightly Appearance.

169. Is that necessary?
I conceive it to be desirable in a Staircase of this Kind, that the Ceiling which covers it should follow the Angle or Inclination of the Steps. I have noticed the very unsightly Effect where this is not the Case in some of the Palaces in Italy.

170. There is another Alteration, of the Robing Room being so very distant from the Entrance to the House?
In the original Instructions not a Word is said about the Robing Room being near the Throne End of the House.

171. It was so in your original Plan?
I admit that it was; but the original Instructions did not even state it was desirable.

172. When those Instructions emanated from the Committee, had you not laid before them a Plan in which the Robing Room was next to the Throne End of the House?
Undoubtedly I had; and for the Reasons I have stated I have ventured to place it at the South End of the Victoria Gallery; but I have since been informed of the Inconvenience that would arise from having it so far from the Throne End of the House; I am therefore ready to show that it may with equal Convenience be put near the Throne End of the House, and that the Room originally proposed for it may be made a Committee Room or a Writing Room.

173. Would

173. Would not that affect the Victoria Gallery?

No. I do not propose to put the Robing Room at the Back of the Throne, but adjoining the lateral Corridor of the House; and I will mention the Object which I have in proposing this Change to your Lordships.

174. How comes it that you never made these Inquiries respecting the Importance of having the Robing Room in a particular Place until the Plans were so far advanced that you could not place it there without an Inconvenience?

I beg to state that the Inquiry was made in Time, as the Plans are not so far advanced but that the Change may be made with the greatest Facility. I had the Honour the other Day of going over the whole Building with Prince Albert, and it was a Source of Regret with His Royal Highness that there was a great Want of large Spaces for Fresco Paintings. On my pointing out, however, to His Royal Highness, that an Opportunity might be afforded of obtaining large Spaces in the now proposed Robing Room at the Throne End of the House, he was pleased to express his Satisfaction at the Change. That is one Reason I have for proposing a Room of this Magnitude, which is much larger than the Room required by the original Instructions, which was to be Thirty-six Feet by Twenty-four Feet. The Room which I now propose to be called the Painted Chamber, or Queen's Robing Room, will be Fifty Feet by Thirty-two Feet, and Thirty Feet high, and it would immediately adjoin the Throne End of the House.

175. Do you propose that it should be used for any other Purpose but the Queen's robing?

Yes; as a Room for hearing Appeals, or a Writing Room.

176. What do you do for the Vote Office and Staircase?

There are several spare Rooms near the Lobby of the House which I understand from Lord Shaftesbury would be equally convenient for the Vote Office. With respect to the Staircase, it might be adjoining the proposed Robing Room without any Inconvenience or material Sacrifice. (*The Witness produced a Plan*). In that Situation a very convenient and handsome private Staircase may be obtained.

177. You do not propose that that Room should be so high as the House of Lords?

No, by no means; I propose that the Room should be Thirty Feet high.

178. How high will the House of Lords be?

Forty-six Feet.

179. It appears to be highly desirable that the Works of the Victoria Gallery should be stopped till the Committee has decided upon the Plan?

I have the Pleasure to state that I have anticipated your Lordships Wishes in that respect, by stopping that Portion of the Work; but it is right that I should at the same Time state that I have done so at considerable Inconvenience to the Contractors, in consequence of the Number of Hands they have now in Employment, and the vast Quantities of Stone which are continually pouring in; and therefore if any Change is to be effected in that Portion of the Building it is of absolute Importance that it should be decided upon as speedily as possible.

180. There is no Difficulty in proceeding with the other Parts of the House of Lords?

None whatever.

181. Will you state whether all the Alterations you have referred to are of your own Authority?

Almost all the Alterations that have been made have been Alterations in consequence of Orders received from the Government, and many of them rendered necessary in consequence of the due Fulfilment of those Orders. The Nature of the Communication made to me by the Government has been, in the first place, to inquire whether Accommodation for certain Objects could be provided in the new Houses of Parliament, without interfering with their general Convenience. I have then reported either that it could or could not, and if it could, that it would be attended with a certain extra Cost, when I

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have received Authority to proceed. That has been the Nature of the Communications between the Office of Woods and myself, from the Commencement of the Building.

182. For what Object have the Alterations with reference to the Victoria Gallery and the Staircase been made?

That Alteration has been made for the Reasons I have already stated, but mainly with reference to the warming and ventilating Arrangements. It is necessary the Roof should communicate in the same Level from the Outside of the Building to the central Tower, rather rising than otherwise, but forming one continued Communication in the Roof?

183. The whole Way from the outside Walls to the Centre of the Building?

Yes. I may here perhaps be allowed to state, that I think the Government has exercised a sound Discretion in not interfering with the Mode of effecting various Changes that have been made in the internal Arrangements of the Building, and in leaving the entire Responsibility with me, as being better acquainted than any one else with the Principles and Details of the Plan of the entire Building, to carry them into effect in the most judicious and effective Manner.

184. In the Contract made with Messrs. Grissell and Peto is it not stated that no Alteration shall be made without the Sanction of the Commissioners of Woods or the Lords of the Treasury?

Yes; without the Sanction of the Lords of the Treasury, or the Commissioners of Woods and Forests, or myself.

185. Do you not think that other Individuals besides yourself, in criticising these Plans of yours from Time to Time, might have found some Objections to them, the removing of which might have rendered them still more advantageous?

I think that is very possible.

186. But you have never consulted a single Individual during the Progress of the Building?

As to the Mode of effecting these Alterations I have not, for I have never been called upon to do so.

187. Did you allude to the Request Lord Sudeley had made to Dr. Reid, that he would allow his Clerk to furnish certain Plans for Lord Sudeley's Inspection?

I made no such Allusion.

The following Extract from Contract No. 5., made with Messrs. Grissell and Peto, for Works in erecting the new Houses of Parliament, is read:

And further, that if the said Commissioners, Parties hereto, or the Commissioners for the Time being of Her Majesty's Woods, Forests, Land Revenues, Works, and Buildings, or the Lords Commissioners of Her Majesty's Treasury for the Time being, or the said Charles Barry, or other the Architect for the Time being as aforesaid, with their Sanction, shall be minded and desirous of making any Alterations or Omissions in or Additions to the said Plans, Elevations, Sections, Drawings, and the Specification or other Descriptions herein-before mentioned, or any of them, or in the Mode or Manner in which the said Works hereby contracted for are covenanted to be completed as aforesaid, or in the Stone or other Materials to be used in or about the same, and shall, in consequence of such their or his Mind or Desire, give an Order or Notice in Writing, or such explanatory Drawings as may be necessary and sufficient, to the said Thomas Grissell and Samuel Morton Peto, their Executors or Administrators, signed by the said Charles Barry or such other Architect for the Time being as aforesaid, therein particularly and minutely mentioning, describing, showing, and setting forth the Nature and Mode of such proposed or wished-for Alteration, Addition, or Omission, then and in every such Case no such Alteration, Addition, or Omission shall vitiate or invalidate this present Contract, but the said Thomas Grissell and Samuel Morton Peto, and the Survivor of them, their and his Executors and Administrators, shall and will, upon receiving such Notice or Order, or such explanatory Drawings as aforesaid, obey, abide by, perform, and observe the Directions and Contents of every such Order or Notice or such explanatory Drawings, and build, erect, construct, perform, and complete the said Works according to the altered Manner therein directed and specified, and as if such Alterations or Variations had been included in these Presents, and the said Drawings, Plans, and Specifications.

188. Do

188. Do you not consider the Words "with their Sanction" in the Extract now read to refer to the Sanction of the Office of Woods?
I do; and consider that I have had its Sanction for the Alterations made.

The Witness is directed to withdraw.

DAVID BOSWELL REID Esquire, M.D., F.R.S.E., is called in, and examined as follows:

189. HAVE you seen the new Plan of the House of Lords, with the new Victoria Gallery of 140 Feet?
I have not seen any very recent Plans, but I am aware of that Plan.

190. Do you consider that with a view to your Plan of heating and ventilating the House of Lords a Gallery of that Sort was necessarily substituted for the former Plan?
I do not consider it necessary.

191. You have never represented it as necessary?
No.

192. Is the Continuity of the Roof necessary, as connected with your Plan?
I have always represented the Continuity of the Roof as very desirable. I understood the previous Questions to refer to the Existence of the Victoria Gallery itself.

193. Though the Continuity of the Roof is desirable, do you consider it essential?
Not essential, but the Want of Continuity would interfere with one great Principle of having every thing on the ascending Movement. Where we are obliged to act on a descending Movement we require a greater Amount of Power for adjusting the Discharge of the Flues; whereas if every thing is on the ascending Movement we have a great Advantage in the natural Currents of the vitiated Air.

194. Supposing a Part of the Building kept lower than the Victoria Hall; that the Roof is not continuous; would that be injurious to your Plan of Ventilation?
It would not be so good, certainly.

195. Would it make any very material Difference?
It would not make a Difference that could not be got over; but it would interfere materially with the present Arrangements, according to which every Flue works to the central Shaft, and always ascends, as with Chimneys in general. Any Deviation from this, to such an Extent as to introduce descending Currents, would require a special Provision.

196. Would that special Provision be difficult to make?
That will depend upon the Detail, as to which, as yet, I have no Information.

197. By this Plan, showing the Victoria Tower and the House of Lords, you have one continued Roof; but it is proposed to drop about Forty Feet between the Victoria Hall and the House of Lords; would such an Arrangement be injurious to your Ventilation?
I think that I perfectly understand the Question. There is a ventilating Channel that goes horizontally along the Roof, upon the Victoria Hall and upon the House of Lords; but the Alteration which is suggested would produce a Break, as it were, in that Channel. The Answer I have to give is, that it does not present a Difficulty that could not be got over; it would depend upon Details. In every Part of the Building, every Place which is ventilated works to a Centre, always on the Ascent, where the Flue is not carried horizontally, so that we have the vitiated Atmosphere draining naturally upwards, as the Water would flow downwards. Any thing that would interfere with those Levels would produce a Difficulty, so far as it went; but not one, perhaps, that could not be got over.

 198. If

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198. If the House of Peers is nearer to that Centre than the Victoria Hall, would your Principle of Ventilation be interfered with?

Certainly not, if the Victoria Hall alone were taken into consideration, and proper Levels and Flues given for the Hall, either over the House of Peers or by another Channel; but there are many Smoke Flues that come from the South, return, and pass along the Top of the Victoria Hall; all the ventilating Arrangements tend at present to a fixed Point; and minor Apartments of very secondary Consequence which are above a certain Level are excluded from the great ventilating Flues, so that it is not necessary to put on that extreme Power that would be required were descending Movements introduced.

199. Is it necessary that the exterior Arrangements should be connected with the interior?

That is the Design at present.

200. Could not you bring your Ventilation into the East Front, and carry it to the centre Tower?

We have already laid down in the East Front the largest possible Flues that Mr. Barry can allow, that there may be as little Necessity as possible for enlarging the Flues over the Victoria Gallery.

201. Then, as the Plan is at present, it is not certain that you will require to carry any Flues across the Victoria Gallery that may not be done in the outer Part of the Building?

According to the present Plans, Arrangements are made for Flues in the Roof of the Victoria Gallery. It is possible to make a different Arrangement.

202. It is not necessary for the Well-being of this Arrangement that those Rooms should be ventilated in connexion with the central Hall, is it?

A local Alteration might be made. It would require, however, a very considerable Alteration of the Plan.

203. Would it require more than an Alteration of the Plan as it regards those Flues?

There is nothing that could not be met by local Alteration of the Flues, were the necessary Space given for them.

204. What is the Alteration which it would be necessary to make?

A special Power, or an Increase of Power in the Shaft, would be required to counteract the Loss incurred by any local Descent, in the same Manner as would be necessary if Water running down a particular Channel had to ascend at a special Place, in opposition to its natural Gravity, before again resuming its descending Course.

205. What is the Nature of the Power you would be required to increase to keep up the Circulation?

More Power in the central Shaft, by more Fire; and possibly we might require a separate Channel, from the Descent involved in the Case supposed. Essentially more Fire in the central Shaft, and possibly an increased Engine Power to a limited Extent in connexion with the Machinery.

206. The greatest Part of the Smoke of the Building is to be collected into One Shaft?

The whole, with the Exception of some small Apartments of great Altitude; and these are of very minor Importance.

207. Your Plan provides for the Destruction of that Smoke?

There would be no Smoke visible,—none would be produced,—if the Plan is carried into execution which was formerly adopted by the Committee.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Thursday next, Three o'Clock.

Die Jovis, 2° Maii 1844.

The EARL OF SHAFTESBURY in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

C. Barry, Esq.

2d May 1844.

CHARLES BARRY Esquire is called in, and further examined as follows:

208. THE Committee understand you have prepared another Plan for the Robing Room?

I have. This Suggestion will be best understood by comparing it with the original Plan, the new Plan being on the same Scale. (*Mr. Barry points out the Position of the different Rooms upon the new Plan.*)

209. You propose to leave an Opening behind the Throne?

It may be either left open or not. I think it might be convenient to the Peers to enter and retire from the House at the Back of the Throne; but it is not intended as an Entrance for the Queen.

210. Has any Preparation as yet been made with regard to the internal Fittings of the House?

None whatever.

211. Should you be able, as soon as you received an Intimation from the Committee as to their Opinion of any general Plan of Fittings, to have them immediately put in hand?

As soon as the working Drawings can be prepared, of which there will be a great Number. Those I produce are only general Drawings.

212. Is any thing as yet done with regard to the Preparation of the Ceiling?

Yes; the Ceiling is in progress.

213. According to the Model produced?

In its main Features according to the Model, but with some Alterations.

214. Can you devise any Plan, by the temporary Removal of Seats, by which the Bar could be brought into the House so as to bring the Counsel nearer the Table?

There would be no Difficulty in effecting that.

215. After having maturely considered all which has been said in opposition to the Idea of the Staircase, with regard to its Length, its Steepness, and its Effect, as well its Convenience, are you still prepared, in your Capacity of Architect, to recommend that Arrangement?

I have maturely considered the Subject, and I am most decidedly of opinion that it would be better to leave the Staircase as it is.

216. Have you brought to the Committee the Authorities which you received for the Deviations from the original Plan?

Yes, I have.

217. Will you have the goodness to put them in?

Here is an immense Bundle of Authorities, some of them not applying to the Points on which I have been questioned by the Committee.

The Witness produces the same, from which the following are selected:

Sir, Whitehall, 29th August 1837.

I am directed by Lord John Russell to transmit for your Consideration, Copy of a Letter from the Commissioners of Police requesting that in the Outlay of the Ground for the new Parliamentary Buildings Accommodation may be prepared for the Police, in lieu of the temporary Building which they have up to this Time been permitted to occupy.

I am, &c.

Sir Benjamin Stephenson, &c. &c. &c. (Signed) S. M. Phillipps.

C. Barry, Esq.

2d May 1844.

Metropolitan Police Office, Whitehall Place,
26th August 1837.

Sir,

The Commissioners of Police, with reference to their Letter to you of the 15th March 1836, respecting a Site of a new Station House for the Police in place of that which the Police have up to this Time had the Use in New Palace Yard, and your Answer of the 30th March 1836, enclosing the Copy of a Report made by the Surveyors of the Board of Works relative to the same, beg leave now to call the Attention of Lord John Russell to that Part of the Report which states, "We are of opinion that the Architect's Attention might be called to the Provision of ample permanent Accommodation for the Police in the new general Outlay of the Ground and Parliamentary Buildings." And as the Commissioners of Woods and Forests have given them Notice of Preparations being immediately made for commencing the building of the new Houses of Parliament, and for enclosing the Ground on which the Shed, &c. hitherto occupied by the Police stands, the Commissioners request that Lord John Russell may direct the necessary Steps to be taken for calling Mr. Barry the Architect's Attention to the Subject, according the Opinion of the Surveyors.

I have, &c.
(Signed) Richard Mayne.

S. M. Phillipps, Esq.
&c. &c. &c.

Sir,

Office of Woods, &c., 22d September 1837.

I am directed to transmit to you herewith, Copy of a Letter received by this Board from the Commissioners of the Metropolitan Police, together with a Statement of the Accommodation they consider desirable to be provided for a Police Station in connexion with the new Houses of Parliament.

I am, &c.
(Signed) Henry Hake Seward.

Charles Barry, Esq.
&c. &c. &c.

Sir,

Office of Woods, &c., 16th January 1840.

Arrangements having been made by this Board, under the Sanction of the Lords of the Treasury, for placing the Ventilation of the Houses of Parliament in charge of Dr. Reid, I am, on behalf of the Board, to desire that Dr. Reid may receive from you, from Time to Time, as the Architect of the Building, such Assistance as he may require in regard to the Plans which have been prepared under your Inspection for his Use; and that generally, in order to second as much as possible the Objects which have induced the Government to select Dr. Reid for the Superintendence of this important Service, you will in all Matters of Detail connected with the Structure and Arrangement of the new Buildings afford him every requisite Facility and Assistance in carrying it into effect.

I am, &c.
A. Milne.

Charles Barry, Esq.,
&c. &c. &c.

Sir,

Office of Woods, &c., 23d January 1841.

On behalf of the Commissioners of Her Majesty's Woods, &c., I am to acquaint you, that the Lords Commissioners of Her Majesty's Treasury have sanctioned the proposed Accommodation of providing Apartments as a Residence for the Librarian of the House of Commons in the new Houses of Parliament, and authorized the additional Expense of One thousand two hundred and fifty Pounds, the Amount of your Estimate transmitted to this Board on the Third of June last Year.

I am, &c.
A. Milne.

Charles Barry, Esq.
&c. &c. &c.

Sir,

Office of Woods, &c., 3d August 1841.

On behalf of the Commissioners of Her Majesty's Woods, &c., I have to acquaint you, that the Treasury have sanctioned the Execution of such Portion of the Works at the new Houses of Parliament as are necessary to proceed with previous to September next, in rendering the Building Fire-proof. And I am, on the Board's Behalf, to convey to you their Authority for proceeding forthwith, agreeably to your Estimate of Five hundred and fifty Pounds.

I am, &c.
Charles Gore.

Charles Barry, Esq.
&c. &c. &c.

Mr.

Mr. Barry.—I have had much Communication with the Office of Woods relative to the Records, but have no specific Direction to afford the requisite Accommodation. I have also communicated with Lord Langdale, who has delivered to me a Report from the Officers of the Record Establishment on the Subject, and I am now considering in what Manner the Accommodation can be best provided in the new Building.

218. Is that with reference to the Victoria Tower?

With reference not only to the Victoria Tower but other Parts of the Buildings. Some Rooms are already provided, which can be appropriated, if it is wished, to the Record Establishment. I have also under Consideration the Possibility of affording Accommodation for the Clerk of the Crown.

219. From whom did you receive that Communication?

From the Office of Woods.

220. Was it in consequence of a Letter from the Treasury?

Yes. There is one other Authority that I cannot find at the Moment. I have made a Report and an Estimate of the Expense of a Residence now in course of being carried into effect, for Mr. Ley, the Clerk of the House of Commons. Authority for that also has, I believe, been given in Writing.

221. Do you recollect in what Session the additional Vote was taken for the Ventilation?

I do not.

222. Did not that, as a necessary Consequence, render certain Changes in the Building inevitable?

It did.

223. Did you obtain from the Woods and Forests any distinct Direction with respect to the Mode in which those Alterations, which were Alterations produced by a subsequent Determination of the House of Commons, should be carried into effect?

No, I did not.

Mr. Barry here observed, that in accordance with a Request made at the last Meeting he had drawn up a Paper containing a Reference to the different Alterations of the original Plan.

The same is read as follows:

Substitution of Victoria Hall for Staircase and Refreshment Rooms, and the Acquisition of Two fine Rooms to the South or principal Floor, as well as Accommodation for Record Establishment above and below them.

Residences for Chief Clerk and Librarian of the House of Commons in Speaker's Quadrangle. Alteration of private Entrance of House of Commons, to economise Space, and properly arrange and light Division Lobby.

Removal of Refreshment Rooms of Peers and Commons near the Libraries.

Placing all the Offices of Houses of Lords and Commons near the public Corridors.

Alteration of public Stairs to Committee Rooms, to economise Space, and obtain large and well-lighted Halls for Witnesses in waiting.

Shifting of centre Line through Houses of Lords and Commons, to equalise the Size of the adjoining Courts, obtaining Carriage Access to every Court throughout the Building.

Provision of Arcades for Carriages to wait under Cover.

Provision on Ground Floor for A. Division of Police.

Numerous Alterations in the Sections of the Building for the warming and ventilating Arrangements.

Provision of a Basement under the entire Building for warming and ventilating Arrangements, and the Re-arrangement of the Plans of the Victoria Tower and Clock Tower for the same Purpose.

Proposed new Robing Room at the Throne End of the House.

Proposed central Tower for Ventilation.

Mr. Barry.—I will now beg to hand in as Evidence the Instructions which I have received from the Noble Lord the Chairman of Committees, with respect to the internal Fittings and other Arrangements and Data connected with the House of Peers, in accordance with which the Plans which I now produce have been prepared.

C. Barry, Esq.

2d May 1844.

The same is read as follows:

MEMORANDA touching the interior Arrangement of the House of Lords.

The Throne.

The Throne is erected about Three Feet from the Wall of the House, and "The Cloth of Estate" comprises that Part of the Throne under the Canopy; on the Right of which is the Chair of the Prince of Wales, and on the Left, that of His Royal Highness Prince Albert.

Between the Chair of State and that of the Prince of Wales there should be Standing-room sufficient for the Lord bearing the Cap of Maintenance, and on the Left there should be also Standing-room sufficient for the Lord bearing the Sword of State. The great Officers (except the Lord Chancellor, whose Place is behind the Chair of the Prince of Wales,) and others in attendance upon Her Majesty are arranged on the Right and Left of the Steps of the Throne; the whole Number being about *Fifty*. The Mistress of the Robes and the Lady in Waiting stand behind the Chair of State; and the Groom of the Stole and Lord in Waiting to Prince Albert stand behind the Chair of His Royal Highness.

When any Foreign Potentate or Prince is present, such Personage is seated on a Chair, placed for the Occasion, on the Right, between the Steps of the Throne and the Archbishops Bench; and the Princes of the Blood Royal, not being Peers of Parliament, as well as Princesses of the Royal Family, are seated on the Lord Chancellor's Woolsack in front of the Throne. There should, therefore, be a sufficient Area about the Throne for the Accommodation of all such Personages when Her Majesty is present.

When the Sovereign is not present, excepting when there is any Royal Commission, there are admitted on the Steps of the Throne and behind the Woolsack Peers Minors, the eldest Sons of Peers, Peers of Scotland and Ireland not being Peers of Parliament, Foreign Ambassadors and Ministers, and other Persons of Distinction.

The House.

The Line of Demarcation within which a Peer, when he enters, is recorded as present, or, having previously given his Proxy, vacates that Proxy "per præsentiam," is within the Line of the Lord Chancellor's Woolsack, at one End of the House, and within the Bar at the other End. It is therefore suggested that no Gallery, *for the Reception of Strangers*, should be erected on either Side within the Limits comprising the House where the Lords sit and vote.

The Right Side of the House, from the Throne, is for the Lords Spiritual, and the Left Side for the Lords Temporal. The highest Place of the former is the Archbishops Bench, within the Line of the Woolsack nearest the Throne, and of the latter, the Dukes Bench, within the same Line, on the opposite Side of the House. The Judges being seated on the parallel Woolsacks, between that of the Lord Chancellor and the Table of the House.

With regard to the Number of Places to be provided for the Lords within the Limits before mentioned, it may be observed, that the largest Number of Peers ever present at a Sitting was on the 7th of October 1831, upon the Second Reading of the Reform Bill, when the Number which divided was *Two hundred and seventy-eight*, being *Sixteen less than Two Thirds* of the whole Number of Lords Spiritual and Temporal then on the Roll, which amounted to *Three hundred and ninety-two*. The whole Number now on the Roll is *Four hundred and fifty-four;* consequently Two Thirds of this Number would be *Three hundred and three*. It is presumed that if Seats were provided for *Two Thirds* of the actual Number now on the Roll there would be sufficient Space for that Purpose within the Limits of the House, without placing the Bar at too great a Distance; it being desirable that the Bar should be as near as conveniently may be to the Table of the House, where the Lord Chancellor, Lord Speaker, or Chairman of the Committees, as the Case may be, presides, when Evidence is taken at the Bar, and when Counsel address the House upon judicial or other Proceedings.

The Bar.

There should be a considerable Area below the Bar for the Reception of Peers upon a Division, and for Members of the House of Commons when they attend the Speaker to the Bar. Much practical Inconvenience has hitherto been experienced from the Want of Space for the Accommodation of Members of the House of Commons; and, consequently, recourse has been had to various Expedients in order to prevent the Pressure upon the Speaker on such Occasions.

The Robing Room.

In the House of Lords, before the Union with Ireland, as well as in the House after the Union, the King's Robing Room was immediately adjoining the Chamber of Parliament, at the Back of the Throne, and the Royal Cortège entered the House by a Door (which was never opened but on such Occasions) on the Right of the Throne.

This Juxtaposition of the Robing Room appears to be very desirable, since the Sovereign, when arrayed in the Parliamentary Robes and other Royal Paraphernalia, would be subject to an Inconvenience to have to proceed any considerable Distance from the Robing Room to and from the Throne.

SHAFTESBURY.

C. Barry, Esq.
2d May 1844.

Mr. Barry.—I will also beg to hand in to the Committee a comparative Statement of the Accommodation in the old House, the present House, and the new House, according to the Plans prepared in compliance with these Instructions, and now laid before the Committee.

The same is read as follows:

HOUSE OF LORDS.—1844.

COMPARATIVE STATEMENT of ACCOMMODATION, allowing 21 Inches for Peers Sittings, and 18 for Strangers Sittings.

	OLD HOUSE.	PRESENT HOUSE.	NEW HOUSE.
Size on the Ground Floor	79.3 × 38.7	80.0 × 25.4	90 × 45.
Ditto on the Gallery Floor	91.3 × 38.7	80.0 × 25.4	103 × 45.
Peers Sittings on Ground Floor	236	174 } 210 Peers Sittings	277 } Total, 349 Peers.
Ditto on Gallery Floor	None	36 }	72 }
Space at the Throne End	38½ × 12.0	25.4 × 7.0	45 × 20.
Space below the Bar	38½ × 20.0	25.4 × 22.0	45 × 22.
Appropriated Sittings in House of Commons, &c.	24	37	36
Unappropriated Sittings for Strangers in Galleries	65 } Total Strangers Sittings, 114	61 } Total Strangers Sittings, 117	79 } Total Strangers Sittings, 209.
Reporters Sittings in Galleries	25	19	24
Distance from the Bar to the Woolsack	38 Feet	43½ Feet	47 Feet.
Distance from the Bar to the Throne	53 Feet	56 Feet	62 Feet.
Distance from the Throne End of Table to the Bar	25½ Feet	30 Feet	27 Feet { Or, by means of a moveable Bar on the Occasions of hearing Appeals, taking Evidence, &c., 21½ Feet.

N.B.—The Cabinet Bench in present House 14.7 long, when full, contains 9 Sittings = 1.7⅓ per Sitting, or, if with 8 Sittings = 1.9¾, Judges Woolsacks, 10.3 × 2.6; Lord Chancellor's Woolsack, 6.0 × 4.0; Table, 7.6 × 53.

224. Who sanctioned those Alterations?
They are all consequent on the Orders given by the Office of Woods.

225. Was any Plan delivered to the Office of Woods showing the Alterations?
None whatever.

226. Not one of the Government knew in the least of any Alterations that were taking place?
Not one of the Government knew how the Accommodation which has been from Time to Time required was to be provided.

227. Then in fact the whole of this Design has been recast without any responsible Person being consulted?
I do not admit that the Design has been recast; it has been altered in Detail, according to the Directions I received.

228. The Alteration of the King's Gallery, for instance, and the Alteration of the King's Hall were not absolutely necessary for the Accommodation required?
They were all consequent on the Execution of the Orders which I received.

C. Barry, Esq.

2d May 1844.

229. They have completely changed the Plan?
Yes.

230. The Staircase is completely altered?
Yes; entirely.

231. And you still persist in saying that a Flight of Twenty-six Steps is not at all objectionable?
I should prefer leaving it entirely as it is. I have given the Subject a great deal of Consideration, and I am satisfied, under all the Circumstances, that it is better to leave it as designed.

232. You have mentioned a great Number of Instances abroad; but you have not mentioned a single Instance of one in London?
Because it has not occurred to me; but those Noble Lords who have been in Italy will doubtless recollect the fine Staircases I have mentioned, particularly that of the Vatican.

233. But the Committee must know the Size of the Steps, and the Tread of the Steps, which you did not mention the other Day. Can you mention any Staircase in London which you would recommend the Committee to look at, to show that your Opinion is good?
I am not aware of any Staircase in London where the Width and Rise of the Steps accord with those which I propose. I could give your Lordships a correct Idea of what the proposed Staircase would be, by having a Model erected on the Spot. I could have it done in Wood, so that your Lordships might judge for yourselves.

234. Is not the Reason why this Staircase under the Duke of York's Column, going out of Saint James's Park is handsome, and does not offend the Eye, first, that it is broken Two or Three Times, but, secondly and chiefly, that it forms a grand Pedestal to the Column; and would not that Staircase, even with those Breaks, be an unsightly Object, if it were not a Pedestal to the Column?
I should say, with Deference to your Lordship, that the Steps alluded to are not convenient, owing to their Want of Width in the Tread, and that if the Two Landings which divide the Flights had been given to the Increase of the Width of the Treads of the Steps it would have been far preferable.

235. What is the Tread of the Steps?
I speak from Recollection; I think they are about Thirteen and a Half Inches.

236. You propose to make these Sixteen Inches?
Yes.

237. You have said that from the Ground Line to the Surface of the principal Floor is Sixteen Feet?
Yes. I could state exactly from the Drawings, but I do not happen to have them with me.

238. Is that Ground Line the same throughout the whole of the Buildings?
No; there is a Difference in the Level of the Ground between the North and the South Ends of the Buildings of between Three and Four Feet.

239. What is the Height from the Basement to the Level of the principal Floor?
May I beg to ask whether your Lordship means the Basement or the Ground Floor?

240. The Question refers to the Basement Floor?
That is the Crypt below.

241. Then that must be below the River?
No; it is not below the River.

242. What

242. What Height have you for the Rise of the principal Floor from Trinity High-water Mark?

Twenty Feet. The Crypt is in part below Trinity High-water Mark, but not below the River.

243. With respect to the Authorities you received from the Office of Woods, did you consider that when you were directed to make Provision for a Clerk, or for the Police, or any other Person, you were at liberty to make any Alteration in the Building requisite to provide for that Purpose?

Certainly.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned till To-morrow, Half past Three o'Clock.

Die Lunæ, 6° Maii 1844.

The LORD PRESIDENT in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

C. Barry, Esq.

6th May 1844.

CHARLES BARRY Esquire is called in, and further examined as follows:

244. THE last Time you were examined here you stated that you had made certain Alterations without any Authority from either the Treasury or the Board of Works?
Not so. I stated that the Alterations I had made were all made by direct or implied Authority.

245. When you speak of their being made either by direct or implied Authority, what do you mean by implied Authority?
I mean that I received specific Orders for certain of the Alterations made, and the Remainder were the necessary Consequence of carrying those specific Orders into effect.

246. With respect to the Staircase and the Entrance to the House of Lords, had you any direct Authority for making that Alteration?
None.

247. Had you any implied Authority?
Yes. As regards the Victoria Hall, that Alteration may be considered as the Result of an implied Authority.

248. Have the goodness to inform their Lordships what were the Directions you received with respect to the Victoria Hall?
No specific Directions with respect to the Victoria Hall, which did not even exist in the original Plan. When I say the original Plan, I beg to be understood to refer to the Plan which was sanctioned by Parliament.

249. There was a Plan which was approved of and sanctioned by the Committees of both Houses of Parliament?
Yes; that is the Plan to which I allude.

250. There have been Alterations made in that Plan?
Yes.

251. Are those the Alterations you refer to, when you say that none have been made without direct or implied Authority from the Treasury or the Board of Works?
Yes; those are the Alterations to which I have alluded.

252. With respect to the Staircase and the Entrance to the House of Lords, there has been an Alteration made?
Yes.

253. On what Authority has that Alteration been made?
By the implied Authority of the Government, as resulting from other Alterations for which I had positive Orders.

254. What were the Alterations for which you had positive Orders from which you considered this as implied?
They are enumerated in the Paper which I handed in on my last Examination.

255. On what Authority did you make the Victoria Hall?
From the Authority given for other Alterations; particularly those in respect of the Ventilation.

C. Barry, Esq.

6th May 1844.

256. Have the goodness to point out the Alterations which have been made in that Part of the Building?
Mr. Barry pointed out the same on the Plan.

257. Do you mean to say that there was any implied Authority for altering the Entrance to the House, because Directions were given to you to make Arrangements for Ventilation?
Yes; on account of those and other Directions.

258. If the Entrance was so completely altered to provide for this, as it appears to be, did you not think it right to state that to some Authority, and to obtain Consent?
I did not, as I was not required to do so.

259. With respect to the Victoria Gallery, that was not in the original Plan?
No.

260. How came that to be made?
I have already stated the Causes as resulting from the direct Orders I received from the Woods and Forests, and the Alterations which I deemed necessary for the Effect and Convenience of the Building to make in consequence.

261. Would it not have been the natural Course to have shown the Authorities under which you were acting the Effect of that which they directed, and to have asked for their Warrant?
Not under the Circumstances; especially as I was never called upon to do so.

262. Supposing you were employed for a private Individual to alter his House; would you consider yourself entitled, because he said he wanted a Room of a particular Description, to alter the Plan in other respects, and to proceed without laying it before the Individual?
Certainly not, if that Individual were to require to be made acquainted with the Mode in which the Alteration was to be effected, instead of leaving it to my Judgment.

263. Why did not you look to the Treasury as the Authority to which all Alterations were to be submitted?
Because I have never been called upon to do so. My Communications have been with the Office of Woods.

264. Should you not have stated to the Treasury, or the Board of Works, that if those Things were to be provided, you must make certain other Alterations of an extensive Nature in the Plan?
I should have done so, if I had been required so to do, or thought it necessary.

265. Have you made, up to the present Moment, any Alteration in consequence of Communication with the Commission of Fine Arts?
I have proposed an Alteration, in consequence of a Regret expressed by the Commissioners of Fine Arts, that there were not sufficiently large Spaces for Paintings; namely, that a Change should be made in the Design of the Victoria Hall or Gallery to afford the large Spaces for Pictures which are wished for.

266. Does that occasion any material Alteration?
It makes no Alteration in the Arrangement of the Plan; it is only an Alteration in point of Taste. I beg to take this Opportunity to observe, that there are various Reasons which induced me to shift the Robing Room: one, the Difficulty of lighting it, in consequence of the Roofs being continued from the South Front to the Central Tower upon One Level, for the Purpose of carrying out the adopted Mode of Ventilation, and the still greater Difficulty of lighting the cross Corridor. I beg to say that in my Opinion these are Alterations exceedingly to the Advantage of the Building.

267. Do you think it a good thing to go up a Staircase, and then turn to the Right, and then come round?
Yes. With reference to the Order of Procession on the Occasion of Visits of the Sovereign, the very best Arrangement. Since the last Meeting of the Committee

Committee I have had a new Model of the Staircase made, in consequence of some suggestions of your Lordships. This Model shows the Effect of a Landing in the Middle of the long Flight. If your Lordships will take the Trouble to visit the Building you will have an Opportunity of seeing the first as well as the second Plans proposed for that Staircase in juxtaposition.

The Witness is directed to withdraw.

The Witness is again called in, and is informed, That the Committee have come to the following Resolution; viz., Resolved, That it appears from the Evidence of Charles Barry, Esquire, that during the Progress of the building of the Houses of Parliament certain Departures have taken place from the original Plans approved of by the Committees of the Two Houses of Parliament, and ordered to be carried into execution, under the Direction of the Boards of Treasury and of Works, which Alterations have been made by Mr. Barry without any Authority from either of those Boards, to which Circumstance they think it right to call the particular Attention of this House.

(*Mr. Barry.*)—I beg to be permitted to say that it is not true that I have made Alterations without Authority. I have only admitted that as to the Mode of making those Alterations I had no Authority.

268. Your Argument is, that because you were directed to provide certain Things there was an implied Authority to do other certain Things which became necessary; but you have not submitted those Plans.
Yes.

269. Did any of the original Plans which were laid before the Commissioners contain the Column in the very Centre of the Victoria Tower round which the Queen's Carriage was to turn, landing Her on the Eastern Side, and then going out through the Archway to the South?
In the Plan approved by the Commissioners that was the Case, but in the Plan approved by the Committees of Parliament that was not the Case.

270. Did not Lord Sudeley often converse with you on the Impractibility of your Plan, and did not you as often say that you were correct?
Very likely, and I am not sure now that I was not right.

271. Then why was a Change made?
Because I have since had the Means of ascertaining all the Difficulties of the Case. I have communicated with the Master of the Horse, and have had an Opportunity of ascertaining correctly the Space in which the Horses of the State Carriage can turn; and though I believe they might have been made to turn in the Space originally allotted for the Purpose, yet if the Horses were restive there might perhaps be some Difficulty.

272. Still you told the Committee you thought you were right?
I still think that the Carriage and the Horses might have gone round the Pillar, but from the Information since received I thought it better to give up that Arrangement, and avoid all Risk.

273. You say that it is not true that you made these Alterations without any Authority?
I do, most explicitly.

274. Supposing the Committee were to insert any "sufficient" Authority?
That of course is a Matter for your Lordships to determine as you may think fit. I conceive that I had sufficient Authority, and have fully stated the Grounds upon which I think so.

275. On that Point you will have to defend yourself to the Board of Works?
I am quite prepared to do so, if necessary.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned.

Brought from the Lords, 13 *May* 1844.

REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS

APPOINTED TO INQUIRE INTO THE

PROGRESS OF THE BUILDING

OF THE

HOUSES OF PARLIAMENT,

And to Report thereon to The House;

WITH

THE MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE.

Session 1844.

Ordered, by The House of Commons, *to be Printed*,
13 *May* 1844.

269.

Under 8 *oz.*

Brought from the Lords, 13 *June* 1844.

REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS

APPOINTED TO INQUIRE INTO THE

PROGRESS OF THE BUILDING

OF THE

HOUSES OF PARLIAMENT;

AND TO REPORT THEREON TO THE HOUSE:

WITH

THE MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE.

Session 1843.

Ordered, by The House of Commons, *to be Printed.*
14 *June* 1844.

REPORT.

BY THE LORDS COMMITTEES appointed a SELECT COMMITTEE to inquire into the PROGRESS OF THE BUILDING OF THE HOUSES OF PARLIAMENT, and to report to The House; and to whom it was an Instruction from The House to consider and report as to the best Means of improving the VENTILATION of the present HOUSE OF LORDS; and to whom Leave was given to report from time to time to The House:—

ORDERED TO REPORT,

THAT the Committee have met, and considered the subject matter to them referred; and have examined Witnesses; and have come to the following Resolution; viz.,

THAT, considering the great inconvenience of the present House of Lords, and that such inconvenience will be greatly aggravated by the progress of the new buildings before the commencement of the Session of 1844, no delay should take place in the building and preparing the new House of Lords beyond what is absolutely required for the safety of the work.

THAT the Architect be directed so to conduct his operations as to secure the occupation of the new House of Lords, with temporary fittings, at the commencement of the Session of 1844.

THAT in case the Architect, in the progress of the work of the new House of Lords, shall find that more time will be required in consequence of any apprehension of injurious consequences to the building, he shall report the same to the Commissioners of Her Majesty's Woods and Forests, in order that such report may be communicated to this House in due time.

THAT it does not appear to the Committee that it is advisable that any alterations in the ventilation of the present House of Lords, which would lead to additional expense, should be adopted.

And the Committee have directed the MINUTES OF EVIDENCE taken before them to be laid before your Lordships.

LIST OF WITNESSES.

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David Boswell Reid, Esq., M. D. - - - - - - p. 10

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Charles Barry, Esq. - - - - - - - - p. 11
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MINUTES OF EVIDENCE.

Die Jovis, 2° Martii, 1843.

THE LORD PRESIDENT IN THE CHAIR.

Charles Barry, Esq., is called in; and Examined as follows:

C. Barry, Esq.

2 March 1843.

1. IT was proposed that the House of Lords should be completed before the rest of the work of the Houses of Parliament; at what time do you expect to be able to have the House of Lords in a state in which it may be used?—I expect that it will be ready for occupation in the Session of 1845; I say I expect so, but I will not pledge myself to that effect; I have every reason to believe that it will be ready in 1845.

2. Was it not understood that it should be ready at an earlier period than 1845?—I am not aware of it; whenever I have been asked about the completion of either the House of Commons or the House of Lords, I have invariably said, that after I had fairly began with those Houses, within two years or two years and a half, they should be completed.

3. Both of them?—Either the one or the other, or both.

4. Would it not be possible to go on with the building of the House of Lords, and of that portion which is necessary for their accommodation, and attached to it, so as to get it forward at an earlier period than the Session of 1845?—I do not think it would be possible.

5. Will you explain why you think so?—Because I think 12 months is certainly necessary for getting up the carcass of the building, and a further time of 12 months is little enough to allow for the finishings.

6. That is to say, if you begin it upon the 1st of April next, you cannot get it up before the 1st of April 1845?—I do not mean to say that to a day; but in about two years from that period I have no doubt that it might be completed.

7. But the building itself would take an entire year, independently of the finishing?—After the shell of the building is erected, I imagine that a twelvemonth is not more than sufficient for the walls and finishings to dry and to be rendered fit for occupation.

8. When you state that it will be ready for the Session of 1845, do you look to other parts of the building being up at the same time; the House of Commons, for instance?—I imagine that both the shell and the finishings of the House of Commons would be in hand at the same time; it will require more than ordinary despatch to get the House of Lords completed within the time specified.

9. Does the building of the House of Lords in any degree depend upon the state of forwardness of the Victoria tower?—Not in the least degree.

10. So that the House of Lords might be raised to its proper height, and the tower might be left to be built afterwards, without any detriment to the building?—It would not be prudent to do so, because the Victoria tower being a part of the building which is exceedingly heavy, it would be very desirable that the carcass of it should precede in elevation the House of Lords and the rest of the building.

11. With respect to the new central tower upon which we have had so much inquiry, would it be necessary to carry that up simultaneously?—It would be necessary, otherwise the ventilation of the House of Lords could not be effected as proposed.

12. With reference to the weight of the building, would it be necessary to carry it up also?—Yes; I should say that it would.

13. What height have you from the present state of the foundation to the level of the ground-floor?—The ground-floor is not upon one level, but generally, I should say, that the foundations are two feet above the level of the ground.

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14. Of the ground-floor of the Houses?—The principal floor of the Houses will be 20 feet above Trinity standard.

15. What height is it from the ground-floor to the eaves of the House of Lords?—Sixty feet.

16. That is the height to which you think it may be necessary to go?—Yes; that will complete the shell of the building in readiness for the roof.

17. In the whole, you have now 80 feet to get up?—Not quite 80, because we are now two feet above the ground and two feet above Trinity standard.

18. What time do you think it would occupy, suppose money was no object, to get the whole range of building to that height?—I should think a twelvemonth.

19. You could not do it in less time?—I would not undertake to do it under that time.

20. Do you think that any of the contractors would engage to do it under that time?—They might; but not with my concurrence, because I think it would not be prudent to carry it on with that expedition.

21. Is that any great height?—Yes; 80 feet is a considerable height.

22. You consider, then, that it would be injurious to the building to carry it up more rapidly than within a year from this time?—I do.

23. Suppose there was no House of Commons, no tower, and no building whatever to be erected, except the chamber to the House of Lords, what time would you take?—I consider that the shell of the House of Lords would take a twelvemonth, to carry it up properly.

24. Supposing it stood alone, and there was no other building at all to be erected, do you mean to say, that if you give up all the other buildings, and you confine yourself to the House of Lords alone, you cannot carry it up more quickly than you can carry up the whole?—I do.

25. If you did carry it up more quickly, would the building be erected in a safe and proper manner?—I think not.

26. Is the contract made for the Houses?—Yes, for the carcass of the Houses.

27. Is any time mentioned in that contract?—Two years and a half is the time limited.

28. Suppose two years ago you had set about nothing but giving accommodation to the House of Lords as speedily as possible, might we not have been in it at this time?—It might have been finished, but it would not have been prudent to do so, because it is desirable that the whole of the building should be carried up together, in order that it may subside at the same time; I consider it necessary that the carcasses of the towers and the House of Commons should be carried up at the same time as the House of Lords.

29. Do you mean that it would not be safe without that?—It would not be prudent.

30. How do you account for Lord Duncannon stating in his place in Parliament, that, according to information derived from you, he believed the work would be finished in two years from that time, that is, by the Session of 1844?—I might have thought so at that time; the delay has been caused by great difficulties which we have met with, arising from quicksands and powerful springs, besides many other causes, such as shoreing up the present buildings, and the confined site of the works, &c.

31. You do not mean to say that the Victoria tower might not be carried up first, and then the other buildings afterwards, but that it would not be prudent to carry up the lighter works before the heavier?—That is what I meant to say.

32. Suppose two years ago you had attended to nothing (except the safety, of course,) but getting the House ready for occupation, might we not have been in it at this time?—I think not.

33. Why not?—Because I have always said two years and a half would be required for completing it.

34. That is to say, we might have been in it at the beginning of next Session?—Yes, but for the delays which have been caused by the difficulty of removing the old foundations, the shoreing that has been necessary for the security of the existing buildings, the landsprings and quicksands which we have had to pass through, the unexpected depths of the excavation and concrete for the foundation walls, the necessity of allowing time for the foundations to become consolidated, and the risk of proceeding with the work during the winter season, &c.

35. The great progress that has already been made has been in the river front; supposing

supposing that river front had not been touched, and the House of Commons and House of Lords had been begun upon, what time would have been required?—It was quite necessary that the river front should be first taken in hand, as a dam to the river.

36. Could there not have been any other means adopted of making a dam to the river, except making the great building which now exists?—Other means have been adopted, but it was nevertheless desirable to proceed with the river front.

37. Would it not have been possible to have raised your river front, and then to have turned your strength to the House of Commons and the House of Lords?—It would have been possible, but I did not anticipate at the time the difficulties which have since been encountered; I should say that the foundations of the portion of the building which includes the House of Lords and House of Commons had proceeded as fast as the nature of the work and the circumstances would admit.

38. Has there been any failure in any part of the foundation?—None.

39. When was the foundation of the Victoria tower dug out?—Towards the end of 1841; and it was rather an unfortunate time of the year, as well as an unfortunate season; I think it was in October.

40. If those excavations had been made at an earlier period, could you not have got more forward with the building?—Yes; but I do not imagine they could have been made at an earlier period.

41. For what reason?—The site was not at that time clear of buildings and substructions. There were a number of other practical difficulties that prevented our going on with that portion of the work.

42. If the buildings on each side of the House of Lords were carried up to a certain height, would there be any danger incurred in finishing the House of Lords before those buildings were completed?—Not the least.

43. Would it not be possible to carry up the House of Lords by using in the lower parts cement instead of mortar?—It would not be desirable to carry up the shell of the House of Lords more quickly than the other buildings which adjoin, under any circumstances.

44. If you carried them up partially, but carried up the House of Lords more quickly, so that the House of Lords were at 60 feet while the buildings adjoining were at 30 feet, would there be any insecurity in that?—It would not be desirable, and it would really make no difference in the time of completion of the building if it were so done.

45. You say it is necessary that the whole should go on at the same time, because if one part was carried up first without the other, then that would settle, and then the other part would be added to it, and that would settle at a different time; suppose I have a house which has been built for a very long time, would it, in your opinion, be safe for me to add a wing to that house?—Perfectly safe; because provision would be made for the settlement of the new part when it was added to the old.

46. If the House of Lords is carried up first, why cannot provision be made for the settlement of the other part?—Provision might be made, but it would not be so sound as if the whole was carried up together.

47. Would it then be unsafe to add a wing to an old building?—Certainly not unsafe, but it would not be so sound as if it had been carried up with the original building.

48. Supposing all that is wanted is safety; you say the adding of the wing would not be unsafe for the house or for the wing, then why should it be unsafe for the House of Commons to have its building added after the House of Lords has been erected and settled?—I have not said that it would be unsafe to do so; I say that it would be imprudent to do so, and that it would make no difference whatever in the progress of the House of Lords even if the House of Commons was not carried up at the same time.

49. Do you mean by "imprudent" that it would not be safe?—I mean that the work would not be so sound.

50. What is the difference between a thing being safe and being sound?—There is a difference, just as there is a difference between good and very good work.

51. If it is equally safe, is it not equally sound?—No; it does not follow that it should be so.

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52. Will you state, then, the distinction that you draw between "sound" and "safe"?—I can only say that the new work would not be so well bonded with the old work as it would be if the old and new work were carried up together.

53. But it is equally safe?—I do not mean to say that it is not safe, but it would be desirable to carry it up simultaneously.

54. Are the Committee to understand, that, supposing your whole attention was directed to carrying up the walls of the House of Lords alone, irrespective of the other buildings, you would not consider it prudent or sound to carry up those walls to the full height of 80 feet in less time than 12 months?—That is my opinion.

55. After that is completed, in how short a time do you suppose that it would be possible to get in the finishings?—I imagine that it will be possible to complete the House for occupation in 12 months.

56. Why should the second 12 months be required?—Because the finishings would require that time to complete.

57. Cannot the finishings be proceeded with in the meantime, leaving nothing but the actual placing of them?—A portion only of the finishings could be proceeded with at the same time.

58. Suppose the two Houses agreed to proceed simultaneously with the whole building, but that the House of Lords should be finished first, to the exclusion of all the rest, by concentrating all your power upon it, could not the House of Lords be finished in less time than a year?—It would be quite necessary, in order to get it finished by 1845, that the finishings should be put in hand before the carcass is up.

59. When do you expect to get the roof on the House of Lords?—Within a twelvemonth.

60. Setting the men to work now on the House of Lords, at what time do you hope to get the roof on?—I hope that I shall get it on by Christmas; that is to say, the walls will be up ready for the roof at that time.

61. Suppose all the fittings were ready but the plastering, what time would it take to finish that, the roof being up at Christmas?—That would partly depend upon the season of the year, the state of the walls, and the amount of time that would be necessary to dry the plastering; I do not think it would be prudent to allow less than a twelvemonth after the roof is on.

62. How close to the passage in the present House of Lords will the new building come?—Within about 10 feet of the present building.

63. The whole of the river front has been carried up to the full height before any other building that is to adjoin it?—Yes, it has.

64. Is there not the same objection to all that which is added on being joined to that river front as there is to the buildings being added to the House of Lords?—Provision has already been made for the junction of the walls in all that has been carried up, and if it should be desired that the House of Lords should be carried up by itself, it would be necessary to make the same provision; but at the same time I do not think it would be desirable to proceed in that way.

65. Suppose, instead of getting up all the river front, you had only got up the part which is absolutely necessary in order to dam the river, might not the House of Lords have been occupied at this time?—I am not prepared to say that it might.

66. Can you have the least doubt about it?—Yes, I have a doubt, in consequence of the difficulties we have met with in the foundations.

67. When did you first find those difficulties?—Throughout the whole of last year we encountered them.

68. Suppose you had met with them in the year 1839, would not those difficulties now have been overcome?—No doubt, if this portion of the building had been begun at that time.

69. If the same provisions were made for joining the House of Lords when built up as have been made for joining the river front, which has been built up to the buildings adjoining, could you, by using cement instead of mortar, get up the House of Lords in a shorter space of time than you now propose?—Yes; but I think it would not be prudent to do so.

70. What are the interior finishings of the House of Lords to be done with?—The fittings are to be entirely of oak.

71. The fittings can be ready at the time the roof is put on, can they not?—

They can be ready, but they should not be fixed till the walls and plastering are dry.

72. By a little contrivance, in what time could the walls be in a state to receive those fittings?—It is impossible for me to say; it will depend much upon the season of the year.

73. Are not there descriptions of plastering that will dry much sooner than others?—Yes; but still with all those aids it is impossible, unless the season is favourable, to say in what time the walls will be perfectly dry.

74. Would it not be possible, by requiring Messrs. Grissell & Peto to have an additional gang of men, to have the roof on by Michaelmas instead of by Christmas next?—I do not think that any thing would be gained by getting it on by Michaelmas, because it would not be prudent to go on with the plastering and finishings during the winter.

75. Not even with those preparations of plastering which are now used?—No.

76. Could you not, by putting on additional hands, get it up sooner than by Christmas next?—It might be got up, but I do not think it would be prudent to hurry it, because a certain time is necessary in order to allow the work to become consolidated and dry.

77. Even using cement?—Yes.

78. Suppose in 1838 you had begun to grapple with those difficulties, the springs, the quicksands and the other difficulties, would not those difficulties have been got over in 1839?—I imagine that they would.

79. Have you any doubt of it?—I cannot say that I have any doubt.

80. In that case we might have gone into the House of Lords in 1840, supposing the river front had been out of the question, and the library?—I imagine that you might.

81. If next winter should prove as mild as the last, would there be any objection to going on with the plastering during the winter?—I think there would; I should not have considered it prudent during the last winter at any time to proceed with the plastering, for it is impossible to say how soon a frost might happen at that season of the year, and one frost might destroy the soundness of the whole of the work.

82. What was the earliest period at which you were able to proceed with the foundations of the inner part of the building?—I do not know that I can with accuracy state the time, but I think that we could not have proceeded with the foundations of that part much sooner than we did, for the reasons which I have before assigned; we have gone on by degrees, so as to interfere with the buildings in use as little as possible.

83. How many men are there at present employed upon the works?—There are at the present time 420.

84. How are they employed?—They are employed upon the preparation of the stone-work for contract No. 5, lately put in hand, as well as No. 3, which is for the river front.

85. To what extent does contract No. 5 go?—No. 5 includes Victoria tower, and the whole of the range of buildings northward to the Clock tower, as well as the intermediate masses which unite that portion of the building with the river front.

86. By Christmas next, will you describe what you expect will be the state of the building?—I expect by Christmas the whole of the walls included in this contract will be up, ready for the roofs.

87. Are the Committee to understand that you cannot get up the House of Lords to the eaves as early as Michaelmas next?—I do not mean to say that it is absolutely impossible; I will do every thing that I possibly can to effect that object, but I will not answer for it being up before Christmas.

88. Do you see any reason for it not being done by Michaelmas?—I do; I think it will not be prudent, for the sake of the work, to complete it in so short a period.

89. Supposing it is done by Michaelmas, is not the month of October generally in this country as favourable as any for plastering?—Not altogether favourable.

90. Do you not go on with plastering during the months of October and November?—Yes, it might be commenced, but before it was completed one might get into such a season of the year as to have its soundness endangered.

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91. You have stated that the fittings of the House of Lords are to be of oak; there will, therefore, be very little plastering?—There will be the upper portions of the walls, &c.

92. Will there be much plastering there?—There will not be much, in proportion to the size of the House.

93. Suppose you got up the House to the eaves by Michaelmas instead of Christmas, could the House of Lords be in a fit state to occupy by next Session?—I do not think it would.

94. What part of the side walls is plastering?—All which is not stone or wood.

95. All the niches are plaster?—Yes.

96. Have you considered at all whether there are any means for giving light or air to the present House during the Session of 1844?—I have not at present; but I imagine there would be no difficulty, by opening windows laterally. I have not, however, considered the subject at present.

97. What is the greatest mischief that you apprehend from proceeding with the finishing of the work as soon as the roof was on?—The risk as regards plastering and finishings.

98 Could that amount to any thing very considerable?—Yes, it might.

99. Supposing it to be finished, as you contemplate, by the roofing being completed by Christmas next, at what period should you recommend commencing the plastering?—By the month of March of the following year; in the meantime, the oak fittings and every preparation might be made, so that the moment the walls were dry they might be fixed.

100. If the House of Lords was covered in by Michaelmas, could it be finished temporarily, so that it might be used during the ensuing Session, and the finishing of the building be proceeded with in the August following, and be completed in the year 1845?—That is a question that I cannot answer without some consideration.

101. How many men are at present employed upon the House of Lords?—It is impossible to say how many are upon the House of Lords, because the number are spread over the whole of the works comprised in the present contracts.

102. You stated that it was necessary to carry up the central tower on account of the ventilation; could not Dr. Reid provide against that difficulty?—According to the system proposed, I think not; but the tower would be necessary for the smoke from all the different flues throughout the building, which are proposed to be carried into it.

[The Witness is directed to withdraw.

David Boswell Reid, Esq., M.D., is called in; and Examined as follows:

D. B. Reid, Esq. M.D.

103. WITH a view to the ventilation of the House of Lords and the House of Commons, is it necessary that the central tower, into which the ventilation is to go, should be erected at the same time as the Houses of Lords and Commons?—It is necessary to the final plan, but the House could be ventilated perfectly for ordinary use independently of the central tower, by arrangements that are going on.

104. So that temporarily you could ventilate the House of Lords without the central tower at all?—Perfectly well; the only peculiarities would be, that an opening between the roof of the new House of Peers and the central tower would be necessary in the meantime, which would be closed afterwards, and that the external atmosphere supplying the House would not be so good, nor the vitiated air from the whole building effectually removed, till the towers are completed. The air will be as pure, however, as the external atmosphere can convey to the present House.

105. So that, in point of fact, if it was built at this moment you could ventilate it sufficiently?—The ventilating apparatus will be ready long before the time at which it will be possible to carry up the House.

106. That aperture that you speak of is merely for the discharge of foul air?—Yes.

107. Do you conceive that any additional improvement can be made in the existing House of Lords in the meantime, in reference to its ventilation?—I think very considerable improvement might be made in reference to its diffusion, and in reference to the heating; no apparatus is now employed for heating beyond

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yond that which I found on the premises. The House of Peers, when they employed me for this purpose, voted a certain sum which did not admit of any additional heating apparatus; we have, therefore, done the best under the circumstances that we could.

108. What is the nature of the additional improvement that could be made, and what is your notion of the sum that it would cost?—I can state the nature of the improvement that would be made, but the amount of the expense could only be given after estimating details. The nature of the improvement is more heat and more diffusion, so as to approximate to the House of Commons in respect to the amount and the diffusion.

109. At present there is the widest difference between the two?—There is.

110. Cannot you give the Committee a general notion, without pretending to an accurate estimate, of the expense which would attend that kind of improvement?—I may state that almost any sum, however small, would ameliorate it.

111. When you say "any sum," what do you think would do it sufficiently, speaking upon a rough guess?—It would be nothing but an exceedingly rough guess, but I should say that several hundred pounds at the very least would be required to give diffusion.

112. Do you think that the improvement could be made under 1,000*l.*?—A very great improvement indeed could be made under that sum.

113. Could you make those improvements during the Session?—I should have no difficulty whatever, working it piece by piece.

114. Working it piece by piece, how long would it be before it was completed?—The answer to that must be very wide indeed, but I should have no hesitation in executing it within a month or two.

115. Should you complete it by the end of the Session?—I have no difficulty in stating that it would be easy to complete it before that time.

116. You can state that 1,000*l.* would be more than would be necessary for the purpose?—I have great difficulty in stating any thing in the way of estimate, for it has not been my department to calculate expenses with respect to this subject; my attention has been directed principally to the plans, and such objects as were in unison with my profession.

117. Should you have any difficulty, with the assistance of persons of information and qualified to judge, in ascertaining what would be the expense?—None whatever; I could then produce an estimate in a few days.

118. You would have no difficulty at all in making the apparatus for the new House of Lords, provided the House of Lords was to be finished in the course of next Session?—None whatever; but additional assistance would be required in my office were this view to guide my proceedings.

[The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Friday the 10th instant, Three o'clock.

Die Veneris, 10° *Martii*, 1843.

THE LORD PRESIDENT IN THE CHAIR.

Charles Barry, Esq., is called in; and further Examined as follows:

C. Barry, Esq.

10 March 1843.

119. IN your last evidence you said that it would be not impossible to get up the building by Michaelmas; that is to say, to get up the carcass?—I might have said that it would not be impossible, but, at the same time, I said it would not be desirable.

120. If it were possible to get the building up by Michaelmas next, would it not be perfectly practicable to get the fittings up by the time of the next Session of Parliament?—I have very considerable doubt whether it would.

121. In your evidence you have said that the plastering would be the thing that would prevent the House being finished by that time?—Not only the plastering, but the drying of the walls themselves.

122. Confining yourself to the plaster, would there be any difficulty in getting the plaster done?—I think there would.

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123. Could you not, by the aid of the atmosphere which Dr. Reid will produce in the House of Lords during the progress of the work, be able to do the plastering fully as well during the winter as you could in the midst of summer?—I think not.

124. What is your reason for thinking that the atmosphere that would be produced by Dr. Reid would not be equally good for carrying on the plastering during the winter months as the heat of summer?—Because it is never found that artificial heat is so efficient in drying plastering as the ordinary heat of the atmosphere.

125. Do you not consider that if you could have such an atmosphere as Dr. Reid could produce, even for the exterior building, it would be better than building in extremely hot weather?—No; I should prefer doing without artificial heat.

126. You do not think that the setting of plaster and mortar work is ever injured by extreme heat?—By artificial heat it often is.

127. But never by natural heat?—I should say not, when properly executed.

128. Are not persons who are employed in building in extremely hot weather obliged to use a great deal of water?—Certainly.

129. What is the objection to the heat produced by the atmosphere of Dr. Reid?—As far as my experience goes, the objection is, that it renders the work unsound by drying too quickly.

130. Must not that depend upon the power of the heat?—No doubt it would in a great degree depend upon the power of the heat.

131. But you think it would be quite an impracticable thing, or at least an injudicious thing, to plaster the House during the winter months, provided you had the benefit of the atmosphere to be produced by Dr. Reid?—I do.

132. If there were no objection on account of the plastering, it is presumed that there would be no objection on account of the fittings alone, because the fittings might be got ready during the time that the wall was carrying up?—The fittings might be got ready, but they should not be fixed till the walls are perfectly dry.

133. With the aid of Dr. Reid's atmosphere, how long would the plastering be in drying?—I am not able to answer that question.

134. The walls must be dried to a certain extent before the plaster can be applied to them?—The walls should be perfectly dry before the plaster is applied to them; but, independently of the plastering, if it were a mere question of wood fittings, I consider it would be impossible to get the House ready by next Session.

135. Supposing you got up the walls as quickly as you could, and got the roof on before Michaelmas, would the walls be then in a state to apply the plaster to?—In my opinion, certainly not.

136. You mean to say that Dr. Reid could not get the walls sufficiently dry to apply the plastering as soon as the roof is on?—I should think not.

137. You will not say that positively?—I cannot undertake to say that positively, but I think it almost impossible.

138. If the plastering could be effected, and the only difficulty was in putting up the fittings from the state of the walls, and Dr. Reid could not get the walls in a sufficiently dry state to make it proper for you to put the fittings up, could not you by some temporary arrangements, by the use of green or red baize, make it perfectly comfortable for the Lords to assemble in next Session?—Yes; I think it would be possible to do that.

139. Then the whole question is, whether the walls can be brought into a sufficient state by next Michaelmas to receive the plastering?—That is not, I apprehend, the whole question, as I do not undertake to get the walls up by Michaelmas; I do not believe that the walls could be properly carried up before Christmas.

140. Not by any additional number of workmen?—I do not believe it would be possible to do it in a proper manner in less time.

141. It is not the quantity of work that constitutes the impossibility, but it is that the work would not be so good if it were hurried?—Certainly.

142. But you do not mean to say that you could not get it up?—I do not mean to say that I could notget the walls up; but I think it would be exceedingly imprudent to attempt it, and I would not be responsible for the due and proper execution of the work if it were attempted.

143. What

143. What is the danger you apprehend from getting up the walls by Michaelmas?—That of not having sufficient time to execute the work in a sound and proper manner.

144. If you were to use cement instead of mortar, would the objection still be the same?—I should not think it desirable to use cement.

145. Why so?—Because the subsidence of the brickwork of the House of Lords might not be equal to the subsidence of the brickwork of other portions of the building which adjoin it.

146. Do you think that would be a serious objection?—I do.

147. You think that using cement in the House of Lords would really affect the consolidation of the building, because cement was not used in the other part?—I mean to say, that the use of cement in the House of Lords would not allow the brickwork to subside to the same extent as the work laid in common mortar, and that would be an evil.

148. The buildings on each side of the House of Lords are not of the same height as either House of Parliament?—They are not.

149. What is the height of the building on each side?—The height of the building on each side from the ground is about 40 feet.

150. So that the House of Lords would be 30 feet higher than the adjoining buildings?—Yes, higher than the adjoining corridors.

151. Will you have the goodness to cast your eye over the evidence of Dr. Reid on the former day—(*the same being shown to the Witness.*)—you observe that he says there, that it is not necessary to get up the centre tower for the ventilation of the House?—I observe that he proposes a temporary expedient to do without it in the first instance.

152. Do you agree with him in that opinion?—I would rather not express an opinion upon that subject, as I have not considered it.

153. In your evidence you state that it is necessary for the ventilation of the House that the central tower should be completed?—I still consider it to be necessary, as its proposed use constitutes a part of the system which he proposes ultimately to adopt. Perhaps noble Lords are not aware of the use to which the central tower is to be applied, beyond the purpose of mere ventilation. It is also designed for the purpose of drawing off the smoke from the several flues throughout the building.

154. That would not apply to heating the House of Lords?—My last observation would not apply, certainly, to heating the House of Lords; but I meant to say that no other part of the building, with open fireplaces, can be occupied till the central tower is completed.

155. Could not you make a temporary building for the escape of the smoke?—Such a building might be erected, but of course it would be done at considerable expense, and it would have to be taken down again when the central tower is completed.

156. Have you, since the last meeting of the Committee, considered the question, how far the building intended for the House of Lords could be got up by the Session of 1844?—I have considered that subject, and I think that by the use of wood instead of plaster for the ceiling, which in many respects I think would aid Dr. Reid in his operations, the House might be got up and the ceiling completed. The walls might be fitted up in a temporary manner, and temporary seats might be provided, and during the following recess the permanent fittings might be fixed.

157. Would there be any objection to that, on account of getting up the walls too soon, or of their not being properly dry?—I will not undertake to say that the walls would be perfectly dry at that time; very much would depend upon the season of the year.

158. Then, upon the whole, would you, as an architect, be responsible for the building, if it were got up in that time?—I would not be responsible for its being perfectly dry, or being in a state fit for occupation.

159. Not only with respect to its dryness, but with respect to its being substantially and properly built?—I would not.

160. But if it is absolutely necessary, you think it would be possible to get it in a fit state to be occupied in the Session of 1844 temporarily?—It would be possible to fit it up in a temporary manner for occupation; but I cannot undertake to say that it would be perfectly dry and fit for occupation.

161. What is the danger that you apprehend from getting it up within that

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time?—I consider that the work would not have sufficient time to be properly executed, and to be properly bonded with the adjoining work.

162. That is as regards carrying up the shell of the building?—Yes.

163. But you have no fear about the plastering?—Yes, I should be apprehensive as to plastering; but as a means of expediting the finishing of the House, I should propose that the ceiling be altogether of wood.

164. Supposing the ceiling to be of wood, would it be more expensive than plaster?—I should not think the difference would be considerable.

165. Do you mean that the sides of the walls, as well as the roof, should be of wood?—I think it would be possible to avoid plastering altogether; but that is not what I have alluded to. I merely stated that it would be possible to execute the ceiling entirely of wood, and if so it could be done much quicker, and with more certainty as to the time of completion, than plaster.

166. And it would be possible to make the walls of stone?—Yes; the walls might be cased with stone, where they were not covered with wood framing.

167. When you speak of the ceiling being of wood, do you mean the permanent ceiling?—Yes.

168. You are aware that there is a notion that the plaster of the walls should be painted in fresco?—Yes, I am aware that such a notion prevails.

169. Supposing there was no plaster put on the walls, but dressed stone instead of plaster, could that stone be painted?—The stone should not be painted till it was thoroughly dried.

170. But it could be painted in the same way as plaster?—Yes.

171. But you probably would not desire the stone to be painted, if you did it in that way?—Yes; I think it would be desirable to paint the internal stonework, in order to harmonize it with the colour of the interior generally; but with respect to fresco paintings, it will not, in my opinion, be possible to have any in the House of Lords. I have made a report upon that subject to the Fine Arts Commission, in which I stated that it would not be possible to have paintings or works of art in the House of Lords, owing to the extent of fittings necessary for the accommodation of the House, and the space which the windows occupy in the upper part.

172. Would it be desirable to paint the stone that would be above the oak fittings in the roof?—I think it would.

173. For what reason?—Because otherwise it would become exceedingly black, and would not harmonize with the colours of the ceiling and the fittings.

174. If you use the Painswick stone, would that be the case?—Yes; the Painswick stone would especially become exceedingly black.

175. There would be no necessity for painting it in the first instance?—Not in the first instance, perhaps; but painting should be applied before the House can be said to be permanently finished.

176. Would it not be sufficient to paint it when the walls become injured and smoked in the course of time?—I do not think so; it would be necessary to paint it for the purpose of harmonizing the effect of the walls with the ceiling.

177. Were the Gothic cathedrals and other stone buildings ever painted?—Originally, I imagine, all Gothic interiors were more or less painted. We are accustomed now to see them merely coloured and whitewashed, but they were not so originally.

178. Do you know any cathedral in this kingdom where the stonework is painted?—I know a number of instances where paintings still exist; Westminster Abbey, for instance, and numerous churches throughout the country.

179. Is not the Temple Church an instance?—Yes; the Temple Church was painted originally.

[The Witness is directed to withdraw.

David Boswell Reid, Esq., M. D., is called in; and further Examined as follows:

D. B. Reid, Esq. M. D.

180. SINCE the last meeting of the Committee, have you prepared an estimate of the expense that would be incurred in effecting a better ventilation of the present House of Lords?—I have; it amounts to 900*l.*

181. Supposing that the Committee should be of opinion that this expense ought to be gone to, would it be entirely thrown away when we remove to the new

new House?—A great part of it would be thrown away; the engine might be valuable.

182. Could the engine be used for the purpose of ventilation in the new House?—Not well in the new House: the value of the engine would remain, but the great mass of the expenditure would not tell to the new House. A steam-engine is always valuable.

183. Is not its value after being used generally a great deal less than its original cost?—Undoubtedly.

184. Then all the rest of the 900*l.* would be lost?—It would.

185. Supposing this 900*l.* to be laid out, would you then be responsible for the proper ventilation of the present House of Lords?—I would; there would be a very great and marked improvement; but unless there was an alteration in the roof of the House of Lords, in the same manner as in the House of Commons, we should not attain precisely the same condition. The House of Lords is extremely long and narrow, and very high, compared with the House of Commons. Supposing the House of Peers is sitting during the day on appeals, sometimes there is a great crowd at one end, and none at the other; in consequence of that, there is an ascent of warm air where the crowd is congregated, and a descent at the other part, independent of the general movement in the air caused by the ventilating arrangements.

186. When you speak of an alteration in the roof, you mean an entire alteration of the roof, similar to that which has been made in the House of Commons?—In the ceiling more particularly, principally the lowering of the ceiling; but I wish particularly to state that that would be a very minor point compared with what can be attained by the other measures proposed. The great and essential difference between the House of Commons and the House of Peers, with respect to ventilation, at present is in degree, not in kind. The greatest approximation to the House of Commons was made that the funds would permit. But at the present moment the diffusion is principally by the sides, and at those places marked under the seats, as may be seen on the plan. (*The Witness here produced a plan.*) Whereas if a greater approximation were made to the House of Commons, the diffusion would be universal, so that there would be share and share alike of fresh atmospheric air throughout the whole House.

187. In order to do that, must you lower the ceiling?—Not the ceiling. I wished to state, that unless the ceiling also were put in the same condition, we should not expect that it would be quite equal to the House of Commons, but it would approximate it so very nearly that little difference would be found.

188. When you come to alter the ceiling, you also alter the lighting?—We do.

189. Supposing the House were to agree that this money should be spent, how long would it be before you would be ready to operate with this new machinery?—From all the circumstances I have been able to gather, connected with the time that would be occupied in these operations, I consider that they might be completed by the end of the Easter recess, provided we should not be involved in difficulty as to the engine.

190. Do you mean to say, that in the course of the Easter recess you could do all that you require?—Supposing that authority were given now, so that we might be prepared during the Easter recess to take full advantage of it.

191. Taking the Easter recess at a fortnight?—Yes.

192. Would it be possible to carry on the work while the House is sitting?—Perfectly; but at the same time it would add a little to the expense, as the workmen could not then be so continuously and advantageously employed.

193. Would it affect the present ventilation, if the works for the new ventilation were going on during the sitting of the House?—Not in the slightest, as we could sustain every thing as it is by the present power till the works should be completed.

194. When you say that you could do it in the Easter recess, you do not contemplate making any alteration in the ceiling or the lighting?—None whatever, and from an engine being employed that would be less necessary. There is one other point which I will beg leave to mention: from what I have seen in the House of Peers, I should propose, independently of the arrangements in the House of Commons, to embody the following arrangements,—to divide the chamber below into five great divisions, so that when there is an accumulation of individuals at the bar, or a number of Members occupying one bench or other on one side, or of strangers at the Throne, I could throw the power of the appa-

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ratus on the one or the other, and distribute the air equally, as it might be required; this would enable me to place a power upon the House, connected with the peculiarities of its sittings, which I have not had an opportunity of giving before.

195. With reference to the lighting, and with reference to the ceiling, would you consider that what you could do in the Easter recess would be at all a complete mode of ventilating the House?—I consider that it would be exceedingly complete, and that the difference between the House of Peers and the House of Commons would then be trifling.

196. Do you mean without the alteration of the roof?—I think the approximation would be great and almost entire, even without the alteration of the ceiling. But the different altitudes make so great a difference in the tendency to revolving currents, that without something was done that way we could not have exactly a parallel case.

197. What power is the steam-engine proposed to be?—Four-horse power.

198. A condensing engine or high-pressure?—High-pressure.

199. The arrangement you propose would in no degree affect the sound?—Not in the slightest degree.

200. Had you any difficulty last night in ventilating the House of Lords to your satisfaction?—None more than usual, arising from the different feelings of Members. We often make from 50 to 60 changes in an evening, as the weather varies, and as the attendance varies.

201. Had you any complaint last night of the state of the atmosphere in the House of Lords?—I had none. Our great regret always is, want of complaints; those complaints never being made to us.

202. Who attends to the regulation of the atmosphere in the House of Commons?—I give a general superintendence; I am rarely absent from the time the Houses meet till they adjourn; but there is an individual appointed in the House of Commons to attend to any order that is given, and that order is conveyed to the attendant below.

203. By the Speaker's directions?—The Speaker gives directions sometimes, and at other times the Serjeant-at-arms, and occasionally Members give directions.

204. How many persons are in attendance?—The duties are rather mixed. There are three in the boiler room, attending the heating apparatus and cleaning department below; and there are always two, one in the House of Peers, and one in the House of Commons, and they give occasional assistance at the shaft.

205. You say that the Speaker and the Serjeant-at-arms, and sometimes some of the Members, give directions with respect to the ventilation of the House; do not those directions clash sometimes?—They constantly clash.

[The Witness is directed to withdraw.

Ordered, That this Committee be adjourned.

REPORT

FROM THE

SELECT COMMITTEE

ON

HOUSES OF PARLIAMENT;

TOGETHER WITH THE

MINUTES OF EVIDENCE

TAKEN BEFORE THEM.

Ordered, by The House of Commons, *to be Printed,*
4 *July* 1844.

[*Price 9d.*]

448.

Under 12 *oz.*

Lunæ, 13° *die Maii*, 1844.

Ordered, That a Select Committee be appointed to inquire into the Present State of the Building of the New Houses of Parliament, and to report thereon to The House.

Martis, 14° *die Maii*, 1844.

Committee nominated:

Mr. Baring Wall.
Earl of Lincoln.
Viscount Palmerston.
Mr. Warburton.
Viscount Duncan.
Mr. Wyse.
Earl of Shelburne.
Mr. Greene.
Lord Granville Somerset.
Mr. Estcourt.
Lord Harry Vane.
Sir Robert Harry Inglis.
Sir George Clerk.
Mr. Pendarves
Mr. Pusey.

Ordered, That the said Committee have power to send for Persons, Papers and Records.

Ordered, That Five be the Quorum.

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REPORT.

THE SELECT COMMITTEE appointed to inquire into the Present State of the Building of the NEW HOUSES OF PARLIAMENT, and to report thereon to The House;——HAVE, pursuant to the Order of The House, examined the Matters to them referred, and have agreed to the following REPORT:

YOUR Committee have examined Mr. Barry, as to the progress already made in the Buildings of the New Houses of Parliament, and have endeavoured to ascertain from him the probable time that will elapse before the whole of the Works can be completed, and the period at which the Two Houses may be occupied for the transaction of Public Business.

He has stated to them, that, were it urgently required, the Houses, and a certain number of Committee-rooms, and other Offices, might be prepared for occupation at the commencement of the year 1846; but Your Committee do not feel themselves justified in affirming that such occupation could take place without inconvenience to the Members, or impediment to the further progress and satisfactory completion of the Building; and they think it right to observe, that the general arrangements for Ventilation cannot be completed till the commencement of the year 1847.

Your Committee have examined The Speaker, the Clerk of the House, and the Serjeant-at-Arms, as to various Alterations which have been lately proposed in the interior arrangements of the House of Commons, and of some portions of the Building immediately adjoining, and have to report that Mr. Barry will be able to adopt several valuable suggestions which the experience of the Officers of The House has enabled them to offer, without any increase of the expenditure already authorized.

Your Committee have examined various parties, as to the course hitherto adopted by Mr. Barry, with reference to alterations of the interior arrangements shown in the Plan approved by Committees of both Houses in 1836. They impute no blame to Mr. Barry for that course, and have every reason to believe that all the alterations hitherto made have conduced to the convenience and general effect of the Building; but looking to the misapprehension that appears to have prevailed as to these proceedings hitherto, they are prepared to recommend that, in future, Mr. Barry should make a half-yearly Report of the progress of the works to the Commissioners of Woods and Forests; and should also submit to that Board any alterations which may hereafter be deemed advisable, and accompany such Report with Plans of the alterations proposed.

Your Committee further recommend that, as several alterations, entailing more or less expense, have recently been sanctioned by the Government, the Chief Commissioner of Woods shall, at the commencement of the next Session of Parliament, lay upon the table of the House of Commons a Statement of the total estimated Cost of the Building, according to the latest Plan approved.

Your Committee also suggest that a Plan, prepared by Mr. Barry under their direction, and exhibiting the Present State of the Building, and the Alterations adopted up to the present time, shall be signed by the Chief Commissioner of Woods, and deposited in the Libraries of both Houses.

4 *July* 1844.

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MINUTES OF EVIDENCE.

Lunæ, 3° *die Junii*, 1844.

MEMBERS PRESENT.

Sir George Clerk.	Mr. Pendarves.
Viscount Duncan.	The Earl of Shelburne.
Mr. Estcourt.	Lord Granville Somerset.
Mr. Greene.	Mr. Baring Wall.
Sir R. H. Inglis.	Mr. Warburton.
The Earl of Lincoln.	Mr. Wyse.
Viscount Palmerston.	

THE EARL OF LINCOLN, IN THE CHAIR.

Charles Barry, Esq. called in; and Examined.

C. Barry, Esq.
3 June 1844.

1. *Chairman.*] HAVE you provided for the Committee, in consequence of a communication made to you by myself a week ago, two plans; one, the plan which was sanctioned by the Committee of the two Houses in 1836, and the other the plan upon which you are now working?—I have provided those plans, and they are now on the table.

2. Will you produce first the plan of 1836?

[*The Witness produced the same.*]

3. Will you now produce the plan upon which you are at present working?

[*The Witness produced the same.*]

4. Mr. *Warburton.*] Does the plan which is lithographed at the end of the Report of the Committee of 1836 agree with the plan you have now delivered in and signed?—It does not agree, as it is a plan in detail, but I imagine it agrees in outline with the plan alluded to, which is called a block plan.

5. *Chairman.*] When did you prepare the plan you have now produced as the one in course of execution at this moment?—The plan has been prepared very recently; in fact since the meeting of the Committee of the House of Lords of this Session, and as far as regards a portion of the accommodation for the House of Lords, embodying some of the suggestions made by that Committee.

6. Were those suggestions made solely with reference to the House of Lords, or did they embrace any other portions of the edifice?—Solely with reference to the House of Lords and its contiguous apartments.

7. Will you now state to the Committee what alterations appear in that plan in that portion of the building appropriated to the House of Commons, the Speaker's residence, and other parts attached to the House of Commons, as compared with the plan sanctioned by the Committee in 1836?—The reply to that question is be best given by a comparison of the two plans, which I beg to put side by side. As regards the residence for the librarian, which is the subject of one of the orders given to me by the Government, that is provided in that portion of the building fronting New Palace-yard, and adjoining the clock tower.

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8. Viscount *Duncan.*] You have mentioned that as the subject of an order given to you by the Government; do you mean by the Woods and Forests?—Yes, by the Woods and Forests. The extension of the clock tower, for the purpose of getting the requisite accommodation in the librarian's residence, is another alteration. Another alteration has been the provision of a residence for the clerk of the House of Commons, Mr. Ley, which adjoins the librarian's residence to the south. Another alteration has been for the purpose of increasing the convenience of the House of Commons, in its division lobbies, and for improving the access to the House, the lighting of those lobbies in a better way than they could have been lighted without such alteration, and the placing of the refreshment rooms near the libraries. Various alterations have also been made in the position of the offices adjoining the corridors, in consequence of communications which have taken place between myself and the heads of the different departments of the House of Commons. I believe those constitute the leading alterations that have taken place in that part of the building devoted to the purposes of the House of Commons.

9. At whose suggestion was the alteration of the refreshment rooms made?—That is entirely a suggestion of my own, in consequence of observations that were made at the meeting of both Committees, when the plan of 1836 was approved, to the effect that it would be exceedingly convenient to have the refreshment rooms near the libraries.

10. Mr. *B. Wall.*] Have those alterations been made by increasing the whole space, or curtailing the space intended for other purposes?—Not by curtailing the space intended for other purposes; the alterations have been made without the least sacrifice of accommodation or of effect in any part of the building; on the contrary, they will be found, upon examination, to conduce very materially both to the convenience and the effect of the building. The only extension of the building is to the north, by protruding the clock tower from the north front.

11. *Chairman.*] With the single exception of the alteration with respect to the clock tower, is the area of the present building precisely that adopted by the Committees of the two Houses?—I was about to say, that although great additional accommodation has been provided, and the convenience of the building very much promoted, the area of the building, as now being executed, is in point of fact less than the area of the building sanctioned by both Houses of Parliament; and that has been produced by great economy of space where space did not seem to be desirable, and other means which have suggested themselves in carrying out the orders given to me by the Government for various purposes.

12. Mr. *B. Wall.*] When you talk of economy of space, do you mean that the dimensions of any of the rooms have been decreased in consequence of the alterations?—None whatever; when I speak of economy of space I allude entirely to staircases, or passages, which appeared to me to be unnecessarily large, or passages not much required in various portions of the building, but not interfering with the dimensions of any of the rooms of the building.

13. *Chairman.*] Are the courts considerably diminished?—The courts upon the whole are increased. It perhaps would be desirable that I should point out to the Committee one very leading alteration as to the arrangement of the plan generally. The longitudinal axis, or central line, of the building, which the Committee will perceive runs through the Royal Gallery, the House of Lords, the Central Hall, and the House of Commons, is shifted so as to be nearer than it was in the original plan to the river front. That is for the purpose of carrying out another suggestion, made by the Committees of 1836, that it would be very desirable to shorten the space as much as possible from the Houses to the refreshment rooms and the Committee rooms. It was done also for the purpose of equalizing the areas as much as possible of the courts, for the purpose of improving the lighting and ventilation of the whole building.

14. Mr. *B. Wall.*] Are you understood to state that some of the passages are narrower than they were originally proposed, but that the courts are not lessened?—I have not stated that any of the passages are narrower; none of the main passages have been in the least degree reduced, they are exactly of the width they were originally intended to be. I have done away in some cases with what I conceived to be useless spaces for passages that were not required for

for the general convenience of the building, and in economizing the areas devoted unnecessarily, as I thought upon consideration, to staircases.

15. No alteration has been made that can in any degree impede the ventilation of the building?—Not at all.

16. Mr. *Warburton.*] Which is the main tower for Dr. Reid's plan of ventilation?—There are three towers for ventilation. I do not know whether the Committee are aware that the three main towers of the building are devoted more or less to the purpose of warming and ventilating. The Victoria Tower and the clock tower are made the means of drawing fresh air from the upper regions of the atmosphere, and the central tower is for the escape of the air when vitiated.

17. Viscount *Duncan.*] Upon what do you consider the authority given by the chief clerk to be founded?—The chief clerk's authority is that of the Committee of the House of Commons which sat with reference to the warming and ventilating of the Houses in 1842.

18. Mr. *B. Wall.*] Are the alterations you have mentioned all the alterations which have taken place in the plan?—I have alluded I think to all the alterations generally, which affect the accommodation for the House of Commons. There have been a number of alterations in detail, which I thought it right to make in carrying out the orders for alterations which I have received from Government. Whenever I have seen an opportunity of improving the effect or the convenience of the building, I have availed myself of it, but those are matters of detail; all the main principles of the plan remain exactly those of the plan adopted by both Houses of Parliament.

19. When you speak of the authority received from the Government, you mean from the Woods and Forests?—I mean generally from the Woods and Forests; in fact I believe I may say so without any exception, because, although the suggestion for the accommodation of the police originated with the Home Office, it was communicated to me through the Office of Woods and Forests.

20. Viscount *Duncan.*] Did you submit the plans of the alterations you have referred to?—No; I have never submitted any plans of the alterations.

21. Mr. *B. Wall.*] Have the Woods and Forests ever called upon you for any plans?—Never.

22. *Chairman.*] Have the Woods and Forests, before sanctioning any alteration, called upon you to state what the expense of carrying out that alteration would be?—Yes, they have generally done so; and I have reported the excess wherever there was an excess; but some of these alterations are effected without any increase of cost; where that is the case, no report has been delivered by me upon the subject.

23. Do you conceive that as regards the expense of carrying into execution the plan which you have produced, as the one upon which you are now working, you have authority either from Committees of the House of Commons or from the Office of Woods and Forests for the whole expense?—Yes; I consider I have the authority of the Woods and Forests for the whole expense now being incurred.

24. Lord *G. Somerset.*] What is the difference between the expense originally sanctioned, and the expense you now anticipate will be incurred: what was the original estimate?—The original estimate amounted to 707,104 *l.*

25. There was some extra expense contemplated for the purchase of land, was not there?—The additional expense for the purchase of property in Abingdon-street and the vicinity amounted to 90,605 *l.* 6 *s.* 6 *d.*

26. Was there any specific sum for the embankment of the Thames?—Yes; the specific sum for the embankment was 55,902 *l.* 3 *s.* 2 *d.*

27. What was the whole of the contemplated expense in 1836?—My original estimate, for the building alone, exclusive of the embankment wall, was 707,104 *l.*

28. Was not there, in 1836, beyond that a sum estimated for the expense of purchasing buildings?—There was an estimate, I think, delivered in to the Commissioners of Woods and Forests of what would be probably required for the purchase of those houses in Abingdon-street.

29. Can you speak to that?—No, but I can speak as to what has been the cost.

30. But not the estimate?—No, I had nothing to do with that; the valuation was made entirely by the Office of Woods and Forests.

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31. You say the amount of your original estimate was 707,104 *l.*; what has there been in addition to that?—"For extra foundations, in consequence of quicksands and springs, and for strengthening the foundations of the Victoria and other towers, 35,063 *l.* 3*s.* 1*d.*; probable excess of cost by the use for the whole of the exterior of the hardest and most expensive of the stones selected for this building, 22,000 *l.*; for rendering the building fire-proof, 21,000 *l.*; for warming and ventilating the building, including the cost of the proposed central ventilating tower required by Dr. Reid to carry his system into effect, 65,000 *l.*; for providing additional accommodation for attornies, as recommended by the Law Society, 5,000 *l.*; for providing an official residence for the librarian of the House of Commons, 1,250 *l.*; ditto, ditto, for the clerk of the House of Commons, 2,000 *l.*; contingencies, probable amount, 12,000 *l.*; expense incurred in building the river-wall, including the coffer-dam," (which formed no part of my original estimate,) "55,902 *l.* 3*s.* 2*d.*; for purchase of premises, and various miscellaneous expenses, 90,605 *l.* 6*s.* 6*d.*" That is an item that does not properly belong to the cost of the building, it is incurred for the purpose of clearing the site for the building; that makes the total amount of my original estimate, with the additions to it for the general building, and also the actual expenditure for building the river-wall, for the purchase of premises required to form a site for the new Houses of Parliament, and for miscellaneous expenses relating to the same, 1,016,924 *l.* 12*s.* 9*d.*

32. That is an excess of upwards of 300,000 *l.* beyond the original estimate?—Yes.

33. Will you state to the Committee, so far as your knowledge enables you to answer, under what authority the first of those items, namely 35,063 *l.* 3*s.* 1*d.*, "for extra foundations, in consequence of quicksands and springs, and for strengthening the foundations of the Victoria and other towers," was incurred?—By the authority given to me to carry out the building in a proper manner, so as to render it perfectly secure in all respects, by the Woods and Forests; the expense was reported to that department and approved. I believe, as far as my recollection serves me, I made a report to this effect, that I found unexpected difficulties in the foundation, which would increase very considerably the expense; that I was unable, from the uncertainty attending such a work, to state what that additional expense would be; but that I wished to have authority to do what was necessary, which was accordingly given to me.

34. Mr. *B. Wall.*] Do you recollect the date of that, as to the year?—I really do not.

35. Lord *G. Somerset.*] Whatever expenditure was incurred in that respect was sanctioned by Government?—By the Woods and Forests.

36. Will you go to the next item?—"Probable excess of cost by the use for the whole of the exterior of the hardest and most expensive of the stones selected for this building."

37. What was the authority which sanctioned that?—Also the authority of the Woods and Forests, in selecting the Bolsover stone, or stone of the same quality, which occasioned an extra cost of about 22,000 *l.*

38. Mr. *Warburton.*] Does that include the expense of the commission that went to search for the stone?—I think not.

39. Sir *R. H. Inglis.*] The stone selected, the selection of which involved this extra expense, was selected by commissioners appointed especially to examine all the specimens of stones?—Yes.

40. Mr. *Warburton.*] You were one of those commissioners?—I was.

41. Lord *G. Somerset.*] Was that expense sanctioned before it was incurred, or afterwards?—Before being incurred; it is not even now incurred to its full extent.

42. It was sanctioned before the commencement of it?—Yes.

43. Will you go on to the next item?—"For rendering the building fire-proof." That was the subject, also, of a report to the Woods and Forests of a sum of extra cost amounting to 21,000 *l.*, which was referred to the Committee who met for the purpose of considering the subject of warming and ventilating the Houses, and was then authorized.

44. That was authorized officially, under the sanction of the Committee?—It was.

45. Sir *G. Clerk.*] Of the Committees of both Houses?—Yes.

46. Lord *G. Somerset.*] What is the next item?—"For warming and ventilating

tilating the building, including the cost of the proposed central ventilating tower required by Dr. Reid to carry his system into effect, 65,000 *l.*" That was the subject also of a report to the Woods and Forests, which was referred by them to the Committees of both Houses, and was sanctioned by those Committees.

47. Mr. *B. Wall.*] That was a joint estimate of yours and Dr. Reid's?—It was.

48. Lord *G. Somerset.*] Will you proceed to the next item?—"For providing additional accommodation for attornies, as recommended by the Law Society, 5,000 *l.*" That was by an order of the Woods and Forests, in consequence of a petition which was forwarded to the Chief Commissioner by certain attornies practising in the courts of law. The next item is, "For providing an official residence for the librarian of the House of Commons, 1,250 *l.*"

49. By whom was that sanctioned?—By the Woods and Forests.

50. Sir *G. Clerk.*] Was it recommended by the Committee to which you have referred?—It was not; it was previous to the meeting of that Committee. "For the house of the clerk of the House of Commons, 2,000 *l.*," or, as it appears elsewhere, 2,600 *l.* That was sanctioned by the Committees of both Houses. The next is contingencies, amounting to 12,000 *l.* Those contingencies were also reported to the Woods and Forests, and they consist generally of arrangements which it was impossible to estimate, principally, I should say, with reference to the system of warming and ventilating. That was a sum suggested to cover all possible expenses upon this head, and some other deviations which would be necessary in the building to carry out the system of warming and ventilation. The next is the expense incurred in building the river wall, including the cofferdam, amounting to 55,902 *l.* 3 *s.* 2 *d.* That work was carried into effect by order of the Woods and Forests; the accounts were delivered to the office, and approved and paid.

51. Lord *G. Somerset.*] Was any estimate of that expenditure laid before the Woods and Forests before the commencement of the work?—There was a general estimate, not made by me, of I believe 40,000 *l.*; that was the amount assumed.

52. *Chairman.*] That work was carried into execution under the joint superintendence of yourself and Mr. Walker?—It was. The next item is "for the purchase of premises and various miscellaneous expenses, 90,605 *l.* 6 *s.* 6 *d.*" With that item I have nothing whatever to do.

53. Lord *G. Somerset.*] How came that particular sum to be fixed upon?—That is the actual cost; it is an expense which has been incurred by the Office of Woods without my interference in any way whatever; relating principally to the purchase of property.

54. Up to what date do those items extend?—The 21st of March 1843.

55. Has any increased expenditure arisen since that time beyond what was then anticipated?—No increase of expenditure has been authorized since that time; but there are various alterations which I have now under consideration, by order of the Woods and Forests, which will undoubtedly create an extra cost. One of those orders is to provide, if possible, accommodation for the clerk of the Crown; another is to provide accommodation in the building for the whole of the public records of the country. I have not been able to mature the plans which I consider most advisable to carry those orders into effect at present; they require a vast deal of consideration with reference to the building in its present state, and therefore I am not at present in a condition either to suggest a plan or to report what the estimated cost would be.

56. Supposing those alterations are not carried into effect, do you conceive that the items which you have been reading are likely to constitute the sum which the building will cost?—I have no reason to apprehend that there will be any excess upon the contracts which are now in hand.

57. Will those contracts complete the building according to the plan as you have explained it?—No; the contracts now in hand extend only to certain portions of the building; they include the carcase of the river front, and a portion of the returns of the building north and south; that is one contract which is now in course of execution. Another contract includes the carcase of the two Houses, and the various rooms which are dependent upon those Houses; the Victoria Tower up to the height of 60 feet; the central tower up to about the same height; and the clock tower to nearly the same height. Those are the two contracts that are now being carried into effect.

 58. *Chairman.*]

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58. *Chairman.*] Was not the last contract that was taken by Messrs. Grissell & Peto under your arrangement of the contracts, contract No. 5 ?—Yes.

59. Upon contract No. 1, namely, as to the river wall, you have already stated that there was an excess; are you able to state whether the other three contracts, Nos. 2, 3, and 4, have been effected at, under, or over the estimated cost?—The only contract that is yet completed is No. 2, which was a contract principally relating to the main drainage of the building; that contract has been executed under the estimated amount, but no other contracts are yet completed, and therefore I am not able to answer that question.

60. Mr. *B. Wall.*] Is not the price of materials considerably lower in 1844 than it was in 1836, taking the price of those articles which in 1836 you were questioned upon, namely, iron, timber, stone, lead, and slate?—Yes, in some respects there has been a material reduction in the price of iron; it has fluctuated considerably, but it is now rising again, and will perhaps reach the price at which it was in 1836.

61. Lord *G. Somerset.*] Can you tell the Committee what you estimate as likely to be the whole amount of charge to the public when the entire building, so far as it is now contemplated, is completed?—I think the Committee will see that it is utterly impossible for me to give any answer upon that subject, because I am constantly receiving orders for fresh accommodation, which involve extra cost, and which orders may be continued even to the completion of the building, and will of course materially affect the ultimate cost of it. I am unable therefore to guess even at what the ultimate cost of the building will be.

62. The question assumes that there will be no alteration from this time made; if alterations are made, of course those alterations must increase the charges; but supposing no alterations to be made at the suggestion of any one, what do you estimate will be the cost to the public of the whole building?—I imagine if the plans, as originally conceived, are carried out, there will be no ultimate excess beyond the original amount of my estimate, and the additions which have been made to it.

63. Allowing for the cost of the additions that have been made, and allowing for the cost of any additions that may hereafter be made, you believe your original estimate will satisfy the completion of the building, in round numbers?—I should say, in round numbers, it may be considered to be a maximum estimate; but there are many circumstances by which the cost of the building may, and probably will, be increased; and it is perhaps fair that I should mention one, that is, the carrying into effect of certain recommendations made by the Commission which is now sitting on Fine Arts, particularly in the fittings of the two chambers, as well as many of the principal rooms and residences of the palace.

64. Those are matters over which you have no personal control, and matters which you were not bound to foresee, when you originally gave in your estimates?—Certainly not.

65. Therefore, you state generally, that supposing the original plan had been adhered to, your belief is that the original estimate would have covered that plan?—That is my belief.

66. Mr. *B. Wall.*] In reference to the questions which have been put to you by the noble Lord, I observe that in a paper which you have put in before the Committee of the House of Lords, with regard to the alterations of the original plan, there are some alterations which you have not observed upon. In page 31 of the Report of the Committee of the House of Lords in 1844, there is this passage: "Mr. Barry here observed that in accordance with a request made at the last meeting, he had drawn up a paper containing a reference to the different alterations of the original plan. (*The same is read, as follows*):—'Substitution of Victoria Hall for staircase and refreshment rooms, and the acquisition of two fine rooms to the south or principal floor, as well as accommodation for record establishment above and below them.'" There are then 11 other items; for five you have stated your authority. Will you have the kindness to state whether you have any authority with regard to the others, for instance, the "removal of refreshment rooms of Peers and Commons near the libraries"?—That alteration I have already mentioned as being consequent upon observations which were made by the Committees of both Houses at the time when the plan of 1836 was approved. Upon my own judgment I then shifted them to those positions, conceiving they would be more convenient than they would have been in their original positions, without involving any increase of expenditure.

67. Does that reply refer to all those items as to which you have not stated your authority?—It may be said to apply to the whole of that list of items; they may all be said to be alterations consequent upon the orders given to me by the Government, and upon that sort of discretion which I considered myself entrusted with generally as well as in carrying out those orders to improve either the convenience or the effect of the building.

68. Are you understood to say that those alterations will incur no additional expense?—Perfectly so; wherever an alteration would, in my opinion, incur any extra cost, I have invariably reported that as my opinion to the Office of Woods.

69. Mr. *Warburton.*] What additional expense will the alterations suggested in the last Report of the Committee of the House of Lords occasion?—I am not aware that any specific suggestions have yet been made by the House of Lords. I happen to know from attending their Committee that certain alterations were entertained amongst several Members of the Committee; but I have not any specific intimation as to what those alterations are. One suggestion emanating from the Committee is that of having a room near the Throne-end of the House, which might either at the opening of the building, or at any time hereafter if thought desirable, be used as a robing-room. That and the alterations consequent upon the formation of that room are the only alterations which are embodied in the plan now before the Committee. I conceive that the alteration suggested will not incur any extra expense.

70. Viscount *Duncan.*] Will you mention the alterations consequent upon that alteration?—The alteration consequent upon the formation of a room near the Throne-end of the House is the reduction in size of the private staircase, for the convenience of Peers, leading to their House, and also the reduction of a room which, in the original plan, was devoted to the purpose of a vote office.

71. Mr. *Warburton.*] There is also the alteration of the Queen's staircase, is there not?—Yes.

72. Mr. *B. Wall.*] Are those alterations now proceeding or suspended?—They are not proceeding, inasmuch as the temporary buildings now occupy the site of those projected alterations.

73. Has there been any order of any kind from any authority to suspend them?—There has been no order whatever to suspend any portion of the works; but it is right I should state to the Committee, that finding the opinion of the Select Committee of the House of Lords was very strong as to certain alterations which might be advisable in the part of the building adjoining the Victoria Tower, and in that part which appears in this plan as the Victoria Gallery, I have taken upon myself to suspend those portions of the building, and I communicated to the Committee of the House of Lords that I had so done.

74. Viscount *Duncan.*] To whom would you apply as a competent authority to sanction all those alterations which you have just mentioned?—To the Woods and Forests; but I am at a loss to know to what authority I could apply for a sanction as to the mode of carrying such alterations into effect. I am not aware that any constituted authority would take upon itself the responsibility of giving an opinion upon that subject.

75. *Chairman.*] If, however, those alterations entailed any additional expense, should you then consider it necessary to apply for authority before you made those alterations?—I should most undoubtedly, upon the principle on which I have uniformly acted.

76. Sir *R. H. Inglis.*] When you refer to alterations as emanating from the Committee of the House of Lords, you do not wish this Committee to understand that such alterations were suggested in the Report of that Committee, but that they were thrown out by individual Members in the course of your examination?—Not suggested in the Report, but by individual Members of the Committee.

77. No one of such alterations has the authority of the deliberative opinion of the Committee of the House of Lords, before whom you were examined?—No; not of the whole Committee.

78. And you have taken upon yourself in those instances, as in the others, to exercise a certain discretion confided to you by the Office of Woods and Forests?—Yes, as far as relates to the mode of carrying out any alterations from time to time, when considered desirable.

79. Upon your own responsibility as an architect, do you continue to think that the staircase as it is laid down, with a series of 25 steps, is the best as to

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architectural effect, and that it is not inconvenient in point of accommodation?—I am still of opinion that it would be better to have the flight uninterrupted.

80. *Chairman.*] There being no authority, such as either a Committee of Taste, or any other to which you thought you could refer upon any architectural alterations, or any alterations of your plans of detail, have you consulted, upon each occasion of an alteration, those parties whom you considered most competent to advise you: for instance, Lord Shaftesbury, in the House of Lords; the Speaker and the Serjeant-at-Arms, in the House of Commons; and others most conversant with the particular business of each portion of the building in which the alteration has taken place?—That is the system I have pursued throughout. I have considered it to be my duty, in the absence of correct information in the original instructions, or sufficiently detailed information in the original instructions, to apply to the heads of departments of each House; and I have been guided by their suggestions as being, in my opinion, the best authorities that I could consult for the purpose, in the different alterations of the plan which have been made in detail.

81. Where those alterations were simply of an architectural nature and entailing no additional expense, you have considered yourself entitled to adopt them; but wherever they have entailed additional expense, have you then sought authority from that department of the Government under which you considered yourself to be acting?—That has been uniformly the case.

82. Mr. *B. Wall.*] With reference to what you have stated as to the suspension of the Victoria Hall and stairs, taking upon you the responsibility of suspending those works for a time, has that been any impediment to the progress of the general building?—Unquestionably it has, to a certain extent, occasioned very great inconvenience to the contractors, and will, if continued much longer, be of very serious consequence in delaying the ultimate completion of the building; so much so that I intended, immediately after the meeting of this Committee, to address a letter to the Chief Commissioner of Woods upon the subject, to state what I had done upon my own authority in compliance with the suggestions very strongly expressed by Members of the Committee of the House of Lords, in observations which were made in the course of my examination; and to inquire whether it was the wish of the Government that any alterations should take place in the plan, or that it should be proceeded with in accordance with the plan now laid on the table.

83. In one of your answers to a question which was put to you in the House of Lords, you stated that a plan specifying the alterations that had been adopted by you was hanging up in the library of the House of Lords; will you allow me to ask you the reason why a similar plan is not placed in our library?—There is a similar plan in the library of the House of Commons; they are neither of them, I believe, hung up, but they were delivered to the Librarians of each House more than 15 months ago.

84. Viscount *Duncan.*] How long do you think it will take to complete the whole building in such a manner that it might be occupied?—That question it would be very difficult to answer, because there are a great number of contingencies upon which the ultimate completion of the building depends; such as the pulling down of the temporary buildings, because the entire building cannot be completed at once, in consequence of the number of temporary buildings which occupy a portion of its proposed site; the shifting of the occupation of one portion of the building to another, therefore I would rather not give any answer to that question, because I feel I could not do so with any degree of certainty.

85. You stated in 1836 that in about six years you anticipated the entire completion of the building; this question was then asked of you, "How long do you think that it would take to complete the building;" to which you replied, "I imagine about six years for the entire completion; it would be possible, however, to complete the Houses and Committee-rooms long before that period, perhaps in about two years"?—It was perhaps very unwise of me to give that answer, as there are so many contingencies upon which the completion of the building depends; it was however a mere conjecture.

86. Mr. *B. Wall.*] You were understood to state, in answer to a question put to you, that the alterations to which you have referred have been made in the interior of the Victoria Gallery, in consequence of the recommendation of the Commissioners of the Fine Arts; will you allow me to ask you if you can state whether the adoption of fresco painting has been decided upon by that Commission?—

sion?—I would answer the former part of the question by saying that no alteration whatever has been made in any portion of the building at the suggestion or recommendation of the Fine Arts Commissioners; but where any alteration has taken place with reference to the accomplishment of the objects they have in view, that alteration has originated with myself as a suggestion. With respect to the latter part of the question, as to the determination of the Commissioners respecting the species of paintings to be adopted in the Victoria Gallery, I am unacquainted with any positive resolution that has been come to upon that subject.

87. Would it not be a great convenience to you, as the architect of the new Houses of Parliament, to know as soon as possible what the decision of that Commission upon that point is?—I do not think that would be a matter of much importance as regards the progress of the building; because wherever I imagine it may be the wish of the Commissioners to decorate the walls of the building with painting, I am making such provision as will allow of a ground for such paintings of any kind that may be thought most favourable to the species of painting that may be adopted.

88. To illustrate my position, I will put this question to you: I see you state that the ceiling of the House of Lords is to be of Memel deal; I conclude that that is with a view to have the ceiling painted?—It is with that view.

89. Do you feel quite confident that the decision will rest with the Commissioners of Fine Arts as to the painting of the ceiling?—I imagine it will, as being a portion of the decorations of the building.

90. With regard to the ceiling of the House of Commons, you would have it, I conclude, either of oak or chesnut?—I propose that the ceiling of the House of Commons should be just like the ceiling of the House of Lords.

91. Painted?—Painted.

92. Sir *R. H. Inglis.*] Painted to imitate oak, or painted to imitate chesnut?—No, not plainly in imitation of wood, but decorated with heraldry and other devices.

93. Mr. *B. Wall.*] So that, in point of fact, the same material would be used, whether the ceiling was a decorated ceiling or a plain one?—The same material as in the ceiling of the House of Lords would be used, because I imagine that more effect could be produced by painting the ceiling than could be produced by a plain ceiling of oak, or any other costly wood.

94. Mr. *Wyse.*] In case the Commission made any suggestions connected with the decoration of the Houses, would it be from that Commission or from the Treasury that you would take your orders?—I should take my orders from the Commissioners of Woods and Forests, through whom I have received all my orders. I have never received any orders direct from the Treasury; they have uniformly been transmitted to me through the Office of Woods and Forests, and I imagine that will be the course in future, whether these recommendations originated with the Fine Arts Commission, or with any department of the Government.

95. In point of fact, the Fine Arts Commission have only communicated with you in reference to suggestions which you might concur in, and as to which they might wish to obtain your approbation?—Entirely so.

96. Sir *R. H. Inglis.*] On the 29th of April you stated that you had anticipated their Lordships' wishes with respect to the possible desirableness of stopping a certain portion of the works in the Victoria Gallery; in answer to question 179, your words are, "I have the pleasure to state that I have anticipated your Lordships' wishes in that respect, by stopping that portion of the work." Of course, therefore, that stoppage must have taken place before the 29th of April, and the works have been suspended from that day to the present, in consequence of observations made by individual Members of the House of Lords, and not in consequence of any Report of the Committee of that House?—Certainly.

97. In the whole progress of the work, have you not had to consider the necessity of combining the actual sitting of the two Houses in something like their present locality, with the progress of the work surrounding them, and into portions of which they were hereafter to enter?—Yes.

98. Has that been the reason why there has been a difficulty on your part in stating the precise period at which the whole work might be considered as finished?—Yes; I should say that is one of the difficulties.

99. So that when the work shall be completed you will be enabled to state that you have not interrupted the progress of the business of Parliament for any

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day in the whole period from the beginning to the end?—I have no doubt that such will have been the fact.

100. Of course you wish the Committee to understand that if you had erected this building in any other portion of London, in a clear space, its progress might have been determined more accurately, and, at all events, it would have been completed more rapidly?—Unquestionably.

101. *Chairman.*] Is not it an impediment to the more rapid progress of the work, that as the building progresses the space for working the stone is necessarily diminished, and that there is an impossibility of obtaining sufficient accommodation for the masons to work, and therefore an impossibility of putting on more hands than are now employed?—That has always been a difficulty: in proportion as we cover the site with the building, so is our space for working and the stowage of materials limited.

102. Mr. *B. Wall.*] How many men are there at work upon the building now?—Upon the whole building, including those at the quarry, in round numbers, about 1,000.

103. Not including those at the quarry, how many are there?—About 700.

104. Are those all masons?—No, of all descriptions.

105. Can you state about the number of masons?—I am not prepared to do so.

106. Viscount *Duncan.*] Did not you alter the design of the Victoria Hall; was not there a change made in the design of the Victoria Hall?—A change was made in what was originally the gallery leading to the House of Lords, and which is now called the Victoria Hall; the design of that portion of the building is altered, and for the reasons I have mentioned in my evidence before the Lords' Committee.

107. Was that alteration submitted to the Office of Woods and Forests?—No.

108. That did not involve any increase of expense?—No.

109. Mr. *B. Wall.*] Is not it higher, wider, and longer?—The area of the Victoria Hall is exactly the same as would have been the area of the gallery and staircase and the refreshment rooms which adjoin that gallery; there has been no excess in the extent of the building in that portion of the work. The Victoria Gallery is formed within the line of the original walls, as given by the original plan, so that, that alteration has not occasioned any extension in the area of the building.

110. Are not the spaces of what may be called its appendages smaller?—Not by any means. Perhaps I can explain that. Here is the plan showing the gallery, and what I afterwards considered to be a very long and tiresome staircase, leading to the House of Lords, of about 100 feet in length; there is a corridor adjoining it giving access to the refreshment rooms, which were placed adjoining the royal court, and which also afforded communication with the south front of the building. There are the refreshment rooms themselves, the bar, and a waiters' room adjoining. That area is now appropriated entirely to the Victoria Hall, the refreshment rooms themselves being shifted to the corridor adjoining the libraries and river front.

111. Viscount *Duncan.*] That alteration was not submitted to the Office of Woods and Forests?—Not at all. I have not submitted any plans whatever in the progress of this building showing the mode in which I proposed to carry out any orders given to me, either to the Woods and Forests or any other department of the Government. I considered that I was left to my own judgment to act in that respect in the best way I could.

112. Then that was entirely on your own judgment, without suggestion from any party?—It was.

113. Sir *R. H. Inglis.*] You have referred to the change of the position made by you of the refreshment rooms of the House of Lords; have you taken into consideration the expediency of placing the refreshment rooms of the House of Lords in immediate juxta-position with those of the House of Commons, and of connecting both with one common kitchen as the means of economising space within the building, instead of having two kitchens and two refreshment rooms?—I have not considered the practicability of carrying into effect such a suggestion, because it has never yet been made to me; but if it were, I should be of opinion, but without, however, any mature consideration, that it would be impracticable to do so, because one of the principles of the plan has been to separate effectually all the accommodation relating to each House, and one means of effecting that has been by separate approaches to the terrace and to other portions of the building,

ing, which would effectually cut off the communication that would be necessary if a kitchen in common were provided for the two Houses.

114. The question had not reference to any communication between the two Houses, but merely between the respective refreshment rooms of each, by one common kitchen on the ground floor, so that part of that area which was intended for one proposed kitchen, might, by the removal of that kitchen, be available for other purposes?—I do not think, according to the arrangement and principles of the plan, one kitchen in common could be provided, consistent with an effectual separation of the accommodation for each House.

115. Mr. *B. Wall.*] In your evidence before the Committee of the House of Lords, you refer in page 15 to some instructions which you received from Lord Shaftesbury, with regard to interior arrangements. Will you allow me to ask you whether you ever received similar instructions from the Speaker, with regard to the House of Commons, or from any authority connected with our House?—With reference to Lord Shaftesbury, I should state that they were not instructions which I received, but rather suggestions of what he conceived would be most convenient for the accommodation of the Houses. The same suggestions have been made by the Speaker and by the Sergeant-at-Arms; they cannot be considered as instructions, because I have had no orders with respect to them. The same system has been applied with reference to all other alterations; I have made it my business to consult the heads of departments, such as the Speaker, the Sergeant-at-Arms, the Clerk of the Journals, the Clerk of the Fees, and other persons connected with the working of the business of Parliament.

116. Can you state the date of those suggestions of Lord Shaftesbury's to which you allude?—I cannot at the present moment.

117. Since the period at which those suggestions were given, have you received any others?—No others.

118. Viscount *Duncan.*] Have you ever consulted Mr. Greene upon the subject?—I have certainly not consulted Mr. Greene.

119. Sir *G. Clerk.*] The Committee understand you to say that when any suggestions have been made to you by the officers of the House of Lords and the House of Commons that some alteration of the disposition of the rooms might be attended with convenience, you have made those changes of your own authority, without submitting the details of them to any department of the Government, where no additional expense would be incurred, but wherever any additional expense would be incurred, you have considered it your duty to refer that matter to the Office of Woods and Forests before you occasioned any such alteration to be made?—That has uniformly been the case.

120. *Chairman.*] Before the Committee of the House of Lords which sat in this Session, you stated that it was your opinion that the Peers might sit in the House next Session, but with temporary fittings; is that still your opinion?—It is.

121-2. You have also stated that the cost of those temporary fittings would not be above 2,000 *l.* or 3,000 *l.*?—I do not know that I stated specifically that they would not exceed 3,000 *l.* I was pressed to give some notion of what the expense would be which it would be necessary to incur, and that was a sum mentioned by a noble Lord, and not questioned by me. I have not gone into any calculation upon the subject.

123. Does not that sum, whether adequate or insufficient, apply only to the temporary fittings which would be required for the House itself?—For the House itself, and the adjoining lobbies and corridors.

124. Would not it be absolutely necessary, in order for the House of Lords to be occupied next year, that a different entrance should be provided for Her Majesty, and a robing room also different from that lately used for that purpose, as well as other accommodation always required for the opening of Parliament?—I do not think it would be necessary to make any very material alterations in those respects. The distance to the new House of Lords would be increased, but the conversion of the present House of Lords into a corridor connected with the lobby of the new House of Lords would be the chief alteration of the present building. I do not consider that it would be necessary to alter the library, which is now used by Her Majesty as a robing room, or the entrance in Old Palace-yard.

125. Do not you consider that there would be considerable practical inconvenience in the House of Lords occupying their new House, and the House of Commons retaining their present accommodation at the same time?—That is a question that I hardly consider myself warranted or able to answer, as it refers

to the working of the business of Parliament; others would be much better judges of that than myself.

126. Would it be possible, without considerable expense, to give an adequate access from the present House of Commons to the future House of Lords?—The access would be very direct; it would be as direct as it is at the present moment, but it would be very much lengthened; there would be the entire length of the present House of Lords, and the communication between that and the new House of Lords in addition.

127. Would not it be necessary to provide passages and lobbies, all of which would be temporary, in order to accommodate the Houses during that one year?—A passage of communication between the present House of Lords and the lobby of the new House of Lords would be necessary, but I am not aware of any other passages that need be created.

128. Viscount *Duncan.*] Are you contemplating the opening of the whole building at one time, or finishing the two chambers first, and the rest of the building afterwards. Do you contemplate, in the way in which you are carrying on the works at present, the finishing of the whole building at once, or the opening of the House of Lords first, and the other portions of it afterwards?—In compliance with the wishes expressed by the Committee of the House of Lords, and the general wish of Members of the House of Commons with whom I have conversed upon the subject, I do not contemplate the entire completion of the building previously to the opening of it; but I contemplate the completion of the two Houses, and the committee rooms and libraries belonging to each House, previously to the completion of the entire building.

129. How long would it take to complete the House of Commons?—That is a question which it is difficult to answer, because I am not prepared to say what suggestions may be made as to farther alterations, the decorations of the building, &c. &c.

130. Without the decorations, what time would you say?—Without the decorations, I do not see any difficulty in the House of Commons sitting in its new house the Session after next.

131. Sir *R. H. Inglis.*] The beginning of February 1846?—The beginning of February 1846. I should also say, with reference to that point, that I could not undertake to say it would be perfectly fit for occupation; I would not even now undertake to say that the walls would be thoroughly dry, and that it would be altogether fit for occupation; but I think that probably the building might be finished by that period, but finished only in a plain way.

132. Viscount *Duncan.*] Is the expense of the actual building increased by hurrying on the contractors?—To a certain extent it is.

133. Mr. *Warburton.*] Is it not impossible to finish the wood-work properly if the building is occupied prematurely?—Utterly impossible.

134. Mr. *B. Wall.*] Do you still retain the opinion which you expressed before the Committee of 1843 very strongly, that it would be prudent to carry up the carcases of the towers and the House of Commons at the same time as the House of Lords, and not prudent to do otherwise?—I am still of that opinion, but there have been difficulties in the way as to the central tower and the clock tower.

135. Mr. *Warburton.*] Are not you adopting an iron roof, defended from rusting by the application of zinc?—I have.

136. At whose suggestion has that been done?—Entirely at my own, as carrying out the principle of fire-proofing, under the estimate which has been delivered.

137. What reason have you to believe that that will be permanently defended from rusting?—An experience of several years in some of the public buildings in Paris and various parts of France, and the opinions of chemists who have considered the subject.

138. How long is it expected that the zinc defending plates will last without renewal?—It is expected that they will last as long as the iron upon which the zinc is placed.

139. Is not the effect of the combination of the two to transfer the whole of the decomposition to the zinc in place of the iron?—I do not think myself, as far as I may venture to give an opinion upon a strictly chemical question, that that would be the effect.

140. Viscount *Palmerston.*] Does that add much to the expense of the iron?—It adds to the expense of the iron, but upon the whole it does not increase the expense beyond that of a wooden roof covered in the ordinary way with lead.

141. Mr. *Warburton.*] How much cheaper is it than a leaden roof would be?—It is considerably cheaper than an entirely leaden roof.

142. How much cheaper would it be than copper?—Cheaper in a much greater proportion.

143. How long have those French iron roofs to which you have referred been in use?—I understand that some of them have been in use five and six years, and that there is not the slightest sign at the present moment of any decomposition whatever upon the surface.

144. Have you examined them yourself?—No; I depend upon the reports of French architects, to whom I have referred.

145. Does the surface remain quite metallic?—Exactly as it was originally.

146. Sir *R. H. Inglis.*] Is not part of the roof actually upon the building at this moment?—Yes.

147. Mr. *Warburton.*] Are the zinc defenders attached to that part of the roof which is already erected?—A portion of the roof is already covered with the zinc plates.

148. Sir *R. H. Inglis.*] When was that portion of the roof first completed?—The zinc plates have been on a portion of the roof for more than six weeks or two months.

149. Viscount *Palmerston.*] Is that a flat or sloping roof?—Both flat and sloping; there are flats as well as roofs of the ordinary pitch.

150. Mr. *Warburton.*] What is the thickness of the iron plating?—Three-sixteenths of an inch; they are very extraordinary castings for that thickness; they are of a great size, but they are cast with extreme accuracy as to thickness and flatness.

151. Sir *R. H. Inglis.*] Where were they cast?—At Birmingham, by Messrs. Bramah and Cochrane's house.

152. Is such a roof heavier than an ordinary roof?—No, of about the same weight as an ordinary slate roof of the description of slates which would be employed for such a building.

153. Mr. *Warburton.*] What do the gutters consist of?—Of iron, also zinced.

154. What do the pipes consist of?—They are of iron also.

155. Are they also defended?—Yes, they are, entirely defended.

156. Are they defended by zinc?—They are not zinced by the ordinary process, but painted with what is termed zinc paint.

157. That is white, is it not?—Yes; of a whitish stone colour.

158. That will not be a defender any more than paint is a defender, will it?—It is said it will be as great a defender as paint. I should say that the paint is quite a sufficient defender for the pipes, as they are placed in the turrets, and are not exposed to the atmosphere.

159. Viscount *Duncan.*] Have there been any changes made in the exterior decorations of the building?—Yes; various changes have been made in the exterior decorations.

160. Those have not been submitted?—Not at all.

161. Do they involve increased expense?—No.

162. Sir *R. H. Inglis.*] So long as you have confined yourself to the general principle of the original design, and so long as any deviations in detail have involved no additional expense, you have considered yourself, upon your own responsibility, justified in carrying out such deviations?—I have considered myself so justified.

163. Mr. *B. Wall.*] And you have been confirmed in that opinion by the circumstance of no plans ever having been asked from you by any department of the Government?—Exactly so.

164. Sir *R. H. Inglis.*] And further confirmed by the fact of no disapprobation having been expressed on the part of Her Majesty's Government in any of its departments, in respect of such alterations?—Certainly.

165. Mr. *Warburton.*] In carrying out the various changes which have been suggested, you have not been required to furnish any particulars respecting the details?—I have not.

166. *Chairman.*] Do you consider that any removal of the responsibility which you have taken upon yourself in those instances to any other party would have been likely to conduce to the efficiency of the work, or the general excellence of the plan?—It is decidedly my opinion that it would have been injurious to the building as a building, and that it would have created delays without end.

167. Mr. *Warburton.*] It would have been equivalent to deposing you from your position as architect?—I should look upon it in that light.

168. Mr. *B. Wall.*] Yet now from being obliged to take the whole responsibility as it were upon yourself, you find yourself at the present moment in a dilemma, conceiving yourself called upon to suspend some works connected with the Houses of Parliament by the circumstance of the Committee of the House of Lords having strongly stated their objections to a part of the plan?—Yes; but that is a dilemma which I had made up my mind should not long exist, because it was my intention, as I before stated, to address a letter to the Government, to know whether it was their wish that that suspension should be continued.

169. It may be inferred from the answer you have just given that you imagine that a good understanding between you and the Office of Woods and Forests is essential to the undertaking and completion of the plan?—Quite essential, in my opinion, and that the Woods and Forests should have entire confidence in my judgment in carrying out this great work; otherwise, I am quite certain, a satisfactory result cannot be arrived at.

170. *Chairman.*] Supposing for an instant the Chief Commissioner of Woods or the Board of Woods and Forests to be men of sufficient taste to control the architect with regard to the detail of the building, would not the mere circumstance of that department of the Government, like all others, being subject to change, be in itself fatal to the efficient carrying out of a work of this description?—Unquestionably, and would produce very serious evils.

171. Mr. *B. Wall.*] In your answer to that question you make a distinction between those recommendations which involve expense and those which do not?—Clearly so.

172. Sir *R. H. Inglis.*] In answer to a question lately addressed to you as to suggestions by the Committee of the House of Lords, you wish this Committee to understand distinctly that such suggestions were not contained in any Report of that Committee, but that they were made by individual Peers in the course of your examination?—Certainly.

173. Mr. *B. Wall.*] So that as the matter now stands, the opinion of any individual Peer would have the power of stopping the progress of the works of the Houses of Parliament?—To a certain extent it has operated in that way; but it was an expression used upon more than one occasion by more than one member of that Committee, that it would be desirable that the works in certain portions of the building should be suspended; the members of the Committee, generally, I should say, concurred in the suggestion, and therefore I took it as a suggestion emanating from the whole Committee, although no specific mention of it is made in their Report.

174. Viscount *Duncan.*] You have said that you intended to make a communication to the Government upon the subject?—I intend to do so.

175. Have you been in the habit of making such communications before upon the point?—Certainly not, because no former suspensions have ever taken place; the work has gone on uninterruptedly to the period when the Committee of the House of Lords met, without any stoppage.

176. In this instance you would have considered the Board of Woods and Forests to be the arbiter between the new plan and the old one?—I should apply to the Board of Woods and Forests as that department of the Government under which I act, and by whose authority alone I act.

177. *Chairman.*] Do not you consider the fact of your having suspended the works in deference to one or two Members of a Committee sitting upon the Houses of Parliament to be one of perhaps rather questionable propriety?—I am decidedly of opinion that it is questionable, but under the circumstances I have considered myself justified in meeting their wishes.

178. Do not you consider that you are only entitled to suspend those works upon a report made to, and sanction obtained from, the Office of Woods and Forests?—Most decidedly.

179. Was not that the course taken by you when, upon a former occasion, at the close of 1841, you thought it desirable to stop the works, on account of the masons then employed upon the building having struck work, and you thought it desirable to release the contractors from the performance of their contract, so far as related to time?—Most unquestionably that was the case. I then made application to the Office of Woods and Forests to that effect.

180. Viscount *Duncan.*] At the time of the alteration of the Victoria Gallery, was there any suspension of the works as to that?—That is the suspension to which I allude.

181. In question 265, page 38, of the evidence before the Committee of the House of Lords, in the present Session, you are asked, "Have you made, up to the present moment, any alteration in consequence of communication with the Commission of Fine Arts"; and your answer is, "I have proposed an alteration, in consequence of a regret expressed by the Commissioners of Fine Arts that there were not sufficiently large spaces for paintings"?—That proposed alteration did not involve any cessation of the works.

182. Sir *R. H. Inglis.*] Will you state to the Committee when the final decision of the Commissioners who originally investigated the subject was made known to you that your plan was adopted?—I will supply the Committee with it.

183. Was it about the spring of the year 1836?—I think it was.

184. Mr. *B. Wall.*] Supposing every three months a report was made from you to the Office of Woods and Forests, stating the progress of the works, should you have any objection to a proceeding of that nature?—None whatever; I should be very happy to make that report either quarterly or annually, and to deliver with that report a plan of the building, showing any alterations that had been made in it from time to time.

185. Or every six months?—Or every six months, as might be determined upon.

186. Mr. *Wyse.*] Do you apprehend any increased addition of expense to the building, or any interruption as to time, from any suggestions already made by the Commission of Fine Arts?—Not necessarily so; I imagine that any suggestion emanating from the Commission of Fine Arts will ultimately create an extra cost; but I do not think it follows that it will create delay as regards the occupation of the building, because the Houses may be finished in a plain way, and many of those decorations may be added after they are occupied.

187. Do you think that those suggestions will increase the expense of the architectural improvements?—No, I do not know that it will make much difference in the arrangement of the architectural detail; it may make some difference with reference to the kind of decorations that may be adopted, but not considerable.

188. *Chairman.*] That would only relate to the internal fittings, the ceilings, the walls, and so forth?—Just so.

189. Mr. *Wyse.*] Not to the general building?—Not in the least as to variations in plan. I would mention to the Committee that I have with me a statement which may assist them in their deliberations at their next meeting; it is a comparative statement of the size and accommodation of the old House, the present House, and the proposed House.

[*The Witness delivered in the same, which is as follows:*]

HOUSE OF COMMONS.

COMPARATIVE STATEMENT as to the Dimensions and Accommodation in the Old, the Present, and the Proposed HOUSES.—June 1844.

DESCRIPTION.	OLD HOUSE.	PRESENT HOUSE.	NEW HOUSE.
	ft. in.	*ft. in.*	*ft. in.*
Extreme length from the bar to the chair ends	60 8	77 0	62 0
Extreme breadth	38 2	37 6	45 0
Distance of the chair from the wall	11 0	7 0	7 0
Distance of the chair from the bar	31 0	38 0	35 0
Width of lateral galleries	7 0	7 0	3 0
Number of benches upon the floor on each side	5	4	6
Members' sittings (at 20 inches, the present allowance) on the floor of the House	305	300	378
Ditto, ditto, in galleries	82	150	191
Total number on the floor and in galleries	387	450	569
Appropriated sittings for Peers, distinguished and other visitors admitted by orders, and officials (20 inches wide each sitting)	85	80	100
Strangers' sittings in public gallery (18 inches each)	64	75	128

Lunæ, 10° *die Junii*, 1844.

MEMBERS PRESENT.

Sir George Clerk.
Viscount Duncan.
Mr. Estcourt.
Mr. Greene.
Sir R. Inglis.
The Earl of Lincoln.
Mr. Pendarves.
Lord Harry Vane.
Mr. Baring Wall.
Mr. Warburton.
Mr. Wyse.

THE EARL OF LINCOLN, IN THE CHAIR.

Charles Barry, Esq. called in; and further Examined.

C. Barry, Esq.
10 June 1844.

190. *Chairman.*] HAVE you, since the last meeting of the Committee, seen the Speaker and Sir William Gosset, with reference to any alterations which might be thought advisable in the plan you laid before the Committee at the last meeting, for the internal arrangements of the House of Commons?—I have.

191. Will you state what modifications of your plan you have adopted in consequence of those interviews?—The principal modification of the plan is the omission of the lobby at the back of the chair end of the House, and the appropriation of that space to the Speaker's room, the Secretary's room, the Trainbearer's room, the office for compiling Votes and Proceedings of the House, and the office for the division clerks, and also a waiting lobby.

192. That is the principal alteration that has been made?—That is the principal alteration; there is another alteration in detail, which it might be as well that I should mention, that is, the raising of the floor of the division lobbies to such a height as would allow of side entrances to the House from those lobbies, upon the level of the second platform of the House floor.

193. From what part of the House do you remove the Speaker's room and the other offices which you now place at the back of the chair?—From the private corridor leading directly from the chair end of the House to the Speaker's residence.

194. What do you now place where those offices formerly were?—I propose that the rooms so set at liberty should be appropriated to the Clerk Assistant, the Second Clerk Assistant, the Public Bill Offices, and the Title Engrossing Office.

195. Were those not provided for before?—Yes, they were provided for, but in other situations.

196. Viscount *Duncan.*] Where were they provided for before?—They were provided for near the public lobby of the House, where there are now a certain number of rooms set at liberty for offices and other purposes.

197. Mr. *B. Wall.*] So that there will be fresh space obtained?—Without any increase of the building.

198. Not at present appropriated?—Yes, at present unappropriated.

199. *Chairman.*] Has there been any alteration in the plan you laid before the Committee last week, with reference to the accommodation for Peers and strangers?—I have not made any alteration in the arrangement of the Peers' and strangers' sittings. The number of sittings for the Peers' accommodation can be determined as the Committee may think fit, but I have provided the means of separate access to those seats that I thought would be most conveniently appropriated for the purpose.

200. It appears that you place several seats in what you call the Members' Reserved Gallery immediately behind the Reporters: will you explain the particulars of that arrangement?—The Reserved Gallery for Members, containing 119 sittings at the back of the Reporters, is raised 10 feet 6 inches above the level of the Reporters' Gallery, and it is proposed that that gallery should be opened only upon extraordinary occasions when there are large assemblages of Members in the House. At all other times I should propose that that gallery should be closed.

201. You do not propose to shut it off from the House, but simply to close the accesses to it?—I propose to close merely the accesses to it; the separation

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of that gallery from the House is proposed to be effected by means of a stone screen: it would be merely closing the doors in the screen to shut off that portion of accommodation for Members.

202. And the access to the Members' Reserved Gallery is separate from the access to the Reporters' Gallery?—Perfectly so.

203. Viscount *Duncan.*] Who would have the management of the access to the Members' Reserved Gallery?—I presume it would be the duty of the messengers or door-keepers of the House to open and shut those doors.

204. Would it be left to their discretion whether the gallery were to be opened or not?—It would be left, I imagine, to the discretion of the Serjeant at Arms.

205. Mr. *B. Wall.*] Does your own opinion concur with that of Mr. Speaker, and Sir William Gosset, that these alterations would be improvements?—Yes, they appear to me exceedingly judicious improvements.

The Right Hon. Mr. *Speaker*; Examined.

206. *Chairman.*] WILL you have the kindness to state to the Committee whether you would recommend any further alterations in the plan now before the Committee?—I see no further alteration that I can recommend, beyond what has just been described by Mr. Barry.

207. You approve of the arrangement made by Mr. Barry, for giving six side entrances to the House, in addition to the main entrance through the lobby?—Perfectly: I consider it very desirable that members should have access to their seats without being obliged to cross the floor. With the view of preserving order in the House, I would also suggest to the Committee, whether it would not be desirable, after the private business is concluded, to lock the great doors at the bar end of the House, so that Members should have no other access to their seats except through the six doors that have been provided by Mr. Barry in the division lobby.

208. Would you then propose that, after taking the divisions, the Members should re-enter the House through the side-doors, instead of the ends of the House, as at present?—I should; because when Members come in at the doors which are on the sides of the House, they will be more easily dispersed than when they come in at the doors at the extremities of the House.

209. Do you consider that this plan, as now proposed by Mr. Barry and sanctioned by yourself, would be the best that could be adopted with reference to any possible future alterations in the working of the House, in the event of your experience dictating such alterations, after the House has been opened?—I think it very desirable that the plan should remain unaltered, as it is at present proposed by Mr. Barry, because we shall be able, when the New House is occupied, to test it by experiment, and to close any of the doors, if we find it inconvenient to Members to keep them open; after a little experience we shall be better able to judge what arrangements will be most conducive to the orderly conduct of the business of the House.

210. Do you approve of the position in which Mr. Barry has now placed your room, and the other offices which Mr. Barry has removed to that portion of the building?—I think the position in which Mr. Barry has now placed the Speaker's room far more convenient than that originally proposed. It is very desirable that the Speaker's room should be close to the House, which it was not before.

211. It appears that, in the plan now laid before the Committee by Mr. Barry, he proposes to give accommodation only to five Peers and five official persons on benches in the House, in addition to the accommodation which is given both to Peers and to orders by the Speaker in the gallery. Do you consider that those five seats for Peers and five for official persons will be sufficient?—No, I do not. I think there ought to be another bench added, because it is very desirable to be able to admit persons who can give information upon questions before the House, with whom Members may wish to communicate in the course of the debate. It is also desirable to have seats for Peers, who may occasionally wish to communicate with Members of the House.

212. By making an additional bench, there would then be accommodation in the body of the House for twenty Peers and official persons. Would that,

The Right Hon. Mr. *Speaker.*

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according to your experience, be sufficient?—I think twenty would be sufficient, in addition to the number of seats reserved for the Peers in their own gallery.

213. The accommodation for Peers in their Lordships' gallery being, it appears, 45 seats?—Yes.

214. In the event of 45 seats in the gallery being found to be more than sufficient, in addition to the accommodation for Peers in the body of the House, would you recommend any portion of that gallery being appropriated for the corps diplomatique?—Some portion of that gallery, indeed the greater part of it, might be appropriated to the corps diplomatique, as I believe there would be ample room for Peers in the body of the House.

215. You mean, that if it should hereafter be found to be desirable, there would be no difficulty, consistently with providing accommodation for the Members of the House of Commons themselves, in giving the Peers increased accommodation in the body of the House?—No: on all ordinary occasions, there will not be any difficulty; and I think it will be proper to give them that accommodation.

216. Are you able to inform the Committee how many Committee-rooms, judging from the experience of the present and late sessions of Parliament, in which there have been a great number of private bills, will, in all probability, be required for the accommodation of the House of Commons?—I would rather that the Committee would put that question to the Serjeant-at-Arms. I believe that we have had, once or twice this year, more than 20 Committees sitting at one time, and we have not had sufficient room for them. You may calculate upon having 25 or 30 Committees sitting at one time; but the Serjeant-at-Arms has the management of the Committee-rooms, and he will give more accurate information upon that subject.

217. Do not you think that it is exceedingly desirable that some new Committee-rooms should be got ready as speedily as is consistent with the general progress of the building?—We are put to serious inconvenience at present for want of room; and if Mr. Barry could give us accommodation in the new building, it would be the greatest possible advantage. There are a great number of rooms at present occupied by Committees which are so badly ventilated, that Members have suffered in their health from attending them.

John Henry Ley, Esq. called in; and Examined.

John Henry Ley, Esq.

218. *Chairman.*] HAVE you seen the plan now proposed for the interior arrangements of the House of Commons, laid before this Committee by Mr. Barry after interviews with the Speaker and Sir William Gosset, since the last meeting of this Committee?—Yes, I have seen the plan of the arrangements proposed.

219. Will you have the goodness to state to the Committee whether you approve generally of the plan as now laid before the Committee, and whether you can suggest any alterations which you think would increase the convenience of the House or its offices?—In respect of the plan of the official arrangements behind the Chair, I approve of it very much; there is a very good room for the Speaker to retire to, immediately connected with the House; on the opposite side a convenient office for compiling the Votes and Proceedings, and a room for the clerks who take the names of Members on divisions, where the lists will be examined; there is an easy access to the residence of the clerk; there are two rooms for the clerk assistant; two rooms for the second clerk assistant; two rooms for the Public Bill Office, and an office for the engrossing clerk, for making amendments and engrossing titles of bills.

220. You approve of all those offices being placed as they are on this plan?—So far as relates to the offices connected with the business during the sitting of the House: the offices upon a larger scale are in another part of the building. In those offices, and the offices behind the chair, there seems to be sufficient accommodation for all the official business.

221. Will you state to the Committee whether you approve of the suggestions of Mr. Barry with respect to the entrance into the House of Commons, he having made six side entrances to the House in addition to the main entrance from the lobby?—My private opinion is, that that entrance, directly

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in the middle of the House, cutting the House in two, will be found to be inconvenient. One thing to be said is, that it may be shut up if it should be found not to work well. Suppose that Sir Robert Peel is standing at his usual place at the table, and speaking, it appears to me that it would be very annoying to have a door nearly in front of him and another door behind him, if Members are to enter the House by those doors during a debate. However, it may be difficult to say what may be convenient and what may not be convenient in this respect, until the plan actually comes into operation; I only state my private opinion, that anything that would divide the House, and entrances by which Members could come in and interrupt a Member speaking, would not be agreeable. As concerns divisions, I am of opinion that two doors of communication with the Division-lobby would be better than three doors on each side, one at the bottom of the House and the other at the top of the House: the whole side of the House would thus be unbroken and uniform. On a division, the Ayes on the right might go into their Division-lobby by the door at the top of the House, and return by the door at the bottom; and the Noes on the left might go into their Division-lobby by the door at the bottom of the House and return by the door at top, thus avoiding the meeting of the adverse parties. A rail, either permanent or temporary, might be put across each lobby, so that the names of Members might be taken immediately as they come into the lobby, and who might then pass on to the entrance-door, where the tellers would be stationed. This arrangement would save much time on a division. I am of opinion that the two entrances in the middle of the House, by which it is proposed that Members should enter on a division, will cause confusion and collision on the floor of the House, especially in divisions in which Members do not vote in a body with their party, as in divisions on private bills, and likewise upon a great many public questions, when many on both sides would have to cross the House for the purpose of regaining their seats. I am also of opinion, that the floor of the lobbies should be on the same level as the floor of the House, and that there should not be any steps.

222. Will you state to the Committee whether, upon looking at the plan, both the ground plan and that of the gallery, you can suggest any alterations?—I have not made myself master of the details of the whole plan; I have turned my attention to the official arrangement, and I think that it is perfectly satisfactory.

Sir *William Gosset*, called in; and Examined.

Sir W. Gosset.

223. *Chairman.*] YOU have had some interviews with Mr. Barry, in conjunction with the Speaker, since the last meeting of this Committee?—I have.

224. In consequence of the suggestions made by the Speaker and yourself to Mr. Barry, he has laid this plan before the Committee as the result of those communications. Will you, upon now looking at it again, have the goodness to state to the Committee whether there are any further alterations which you would propose?—No; this is quite according to the arrangement we suggested.

225. What do you think of the proposed arrangement of the side entrances to the House?—I very much prefer them to the entrance from the lobby at the end of the House.

226. Do you think that it might be found convenient, at the commencement of the public business, to close the main entrance from the lobby, and to allow Members only to enter the House by the six side entrances?—Decidedly; and merely to keep this principal entrance for public occasions, such as messages from the Lords, persons coming up with papers, and for the entrance for the Speaker.

227. Do you think that the proposed arrangement for taking divisions will be satisfactory, namely, allowing Members to go out by the four extreme side entrances, and to re-enter the House by the two centre side entrances?—I think perfectly so. There is only one objection to it: the difficulty of parting off a portion of the Lobby for the purpose of Members recording their votes previously to their re-entering the House.

228. Might not that difficulty be removed by a temporary screen in the centre of the Division Lobby?—Yes, as just now pointed out by Mr. Barry.

Sir *W. Gosset.*

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229. Have you any suggestions to offer with reference to the accommodation in the Peers' Gallery, the Speaker's Orders Gallery, the Strangers' Gallery, or the Reporters' Gallery?—The Peers' Gallery, I take for granted, would be not for Peers alone, but for the present list of privileged persons now admitted under the gallery, and which is of long standing.

230. Mr. *B. Wall.*] Whom does it include?—English, Irish, and Scotch Peers. The eldest sons of Peers of Parliament. [This does not include the eldest sons of Bishops, or of Scottish or Irish Peers not being Peers of Parliament.] Heirs presumptive of Peers of Parliament. Sons of Members of the House of Commons, and the House of Peers, while at school. The Judges. Masters in Chancery. The Attorney-General. The Solicitor-General. The Remembrancer of the City of London. The Secretaries of the Lord Chancellor or Lord Keeper, or First Commissioner of the Great Seal being Speaker, or any other person being Speaker of the House of Peers. The Clerks and Officers of the House of Peers and House of Commons: and upon application, Foreign Ministers, and foreigners of distinction having been introduced at Court, are admitted. British Ministers to foreign countries, when business is fixed which relates to their appointments.

231. Do you see any objection to Mr. Barry's proposal of a Reserved Gallery for Members, to be used on occasions on which the House is too crowded to admit the whole within the usual accommodation?—With the explanation I have had from Mr. Barry, I do not; but at first I was struck with the rather strange appearance of putting Members behind the Reporters; however, upon looking at the section, I do not think it will be at all objectionable.

232. You think that, being at the elevation of 10 feet above the Reporters, it would not be objectionable?—Not at all.

233. That gallery is only to be opened upon great occasions?—Yes, that is the advantage; for when the House is not very full, it can be shut out.

234. The Committee are informed that provision is made by Mr. Barry for 30 Committee-rooms. Do you consider that that number will be as many as will be required in ordinary years?—I think so.

235. Have you any suggestions to offer to the Committee with reference to the disposition of the Committee-rooms. You are aware that by Mr. Barry's present proposal two of the Committee-rooms of the House of Commons adjoin the suite of Commons' Libraries; the remainder of the Committee-rooms extend the whole length of the river front, between the official residences of the House of Lords and the official residences of the House of Commons?—The only thing that I have to observe upon is, that I am extremely desirous, if possible, that there should be an entrance to all the Committee-rooms, independently of passing through the Great Hall; for they are attended by such a set of people that I am afraid if they are allowed to pass through the Great Hall, and wander in every direction, we shall not be able to keep the order and cleanliness that ought to be maintained. I do not mean that this proposed entrance should be for Members or counsel, but for all the rest of the people that go to the Committees.

236. Has not great inconvenience been felt during the present session from the want of more accommodation for Committees?—Very great inconvenience has been felt by Members.

237. Would it not be very desirable if Mr. Barry could provide before the next Session, six or eight Committee-rooms in the new buildings?—I consider it indispensable to have new Committee-rooms by a month after the meeting of Parliament next year.

238. Would six or eight be sufficient, if they are of sufficient size?—Eight, six of them being large ones, would, I conceive, be sufficient.

239. When you mention eight as being indispensable, you take into account the possibility of Mr. Barry finding it necessary to deprive you of some of the accommodation which you already have in the present building?—Yes.

C. Barry, Esq.

Charles Barry, Esq. called in; and further Examined.

240. Viscount *Duncan.*] DO the suggestions made by the Speaker as to this new plan of the interior of the House of Commons, as compared with the plan which

which you showed to the Committee last week, involve any serious change in the details of the work?—None whatever.

241. Do they involve any additional expense?—None whatever.

242. Then the estimate is the same for this as for the original plan?—The estimate will remain the same.

243. Mr. *B. Wall.*] You have stated that by the new arrangement, suggested by the Speaker, some space would be left unappropriated; will you show, on the plan, where that space is, and whether you contemplate to occupy it for any particular purpose?—The space left unappropriated is at the north of one of the courts called the Commons Inner Court, and consists of four rooms.

244. Would it be possible to turn those spaces that are now unoccupied into accommodation for the Clerk of the Crown?—I am not prepared to answer that question at present. I have the subject under consideration, but I have not yet made up my mind upon it, and I should rather prefer not giving an answer to that question until I have considered it with reference to several other arrangements.

245. Looking at the statement of the accommodation which you have given in to the Lords' Committee, with reference to that House, it appears that you allow 21 inches for the Peers' sittings, and 18 for strangers. What dimensions do you allow for the House of Commons sittings?—For the Members' sittings in the House of Commons 20 inches, which is the allowance upon the present Treasury bench; and for strangers' sittings 18 inches.

246. I observed the other day when I went over the House, when under the new arches, under which the state carriages are to pass, that the first is narrower than the second. Will you state what is the reason of making them so, and will you also state the dimensions of each?—The archway alluded to is 9 feet 6 inches wide above the plinth, which is the width of the gateways generally throughout the building.

247. *Chairman.*] Sir William Gosset in his evidence has stated, that it would be exceedingly desirable that by the commencement of next Session six or eight additional Committee-rooms should be provided, especially if he is called upon to give up some of that accommodation which is now available for Committee-rooms, in the event of the progress of the other works requiring it. Shall you be able, without any great inconvenience to the progress of the work, to provide that accommodation which he requires in the new building?—I have no doubt I could.

248. In what part of the building would you propose to provide it?—In that portion of it which is towards the river; I could fit up six or eight rooms in that situation.

249. Would you propose to prepare them temporarily for that purpose?—Yes; I should propose to fit them up in a very temporary way for that purpose.

250. Viscount *Duncan.*] Would it involve any increase of expense?—It would.

251. *Chairman.*] Of course you are not able at this moment to state what the expense would be?—I am not, but the expense would not be large.

252. You do not consider that that arrangement would impede the progress of the work to any material extent?—Not to any material extent.

253. Do you, however, conceive that the temporary appropriation of any portion of the building might lead to other inconveniences, although the providing the accommodation in that specific part was not in itself inconvenient?—I think it is possible that it would lead to other inconveniences; and if I were to give an opinion decidedly upon the propriety of the measure, I should say that I would rather not fit up any portion of the building in a temporary way.

254. If it is possible to provide accommodation for the Committees elsewhere, you would decidedly object to the proposed appropriation of those rooms in the new building?—Most decidedly; if the accommodation could be provided elsewhere, I should much prefer it.

255. And you consider that it is a step which ought only to be adopted as a matter of absolute necessity?—I think so.

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256. In the evidence taken before the Committee on the Ventilation of the New Houses, in 1841 and 1842, Dr. Reid stated that it was proposed that there should be no separate chimney shafts to each of the Committee-rooms; would there be some inconvenience on this account, in providing for the warming and ventilating of those rooms during their temporary occupation?—Unquestionably there would be considerable inconvenience; and in fact it would be impossible to warm them upon the system proposed by Dr. Reid. If they are warmed at all, it must be done by means of temporary flues in the ordinary way, which would have to be carried up through the roof of the building. The general system of ventilation proposed cannot be put in practice effectually till the central tower is completed.

257. Mr. *B. Wall.*] Would the occupation of those rooms prevent the system recommended by Dr. Reid from going on towards completion?—No; if in the other parts of the building the proposed system were in action, the temporary occupation of those rooms would not interfere with it.

258. With respect to the reserved gallery for Members, has your attention been drawn to the effect that the empty space would have?—My attention has been directed to that point, but I conceive that there would be no ill effect produced by the non-occupation of those seats, because the gallery would be separated from the body of the house by means of a stone screen.

259. Viscount *Duncan.*] Have you received any instruction on the subject of the public records?—Yes, I have.

260. From whom?—From the Office of Woods and Forests.

261. Have you contemplated making any arrangements with regard to the records?—I have the subject now under consideration. I have no doubt I shall be able to effect an arrangement for them as soon as I can have time to mature it.

262. You are not at present prepared upon the subject?—I am not at present prepared to enter into any detail.

263. What is the width of the terrace?—Thirty-five feet.

264. You do not contemplate making the terrace any wider?—No.

265. Will you explain in what respect the block plan in the Report of 1836 differs from the plan now being executed?—It would be very difficult to point out all the differences, because many of them are of a minor character, which would be difficult to explain; but the best answer I could give to that question would be to prepare a block plan of the building, as now being executed, which might be laid by the side of the block plan alluded to, and the differences would then be apparent.

266. With regard to the refreshment-rooms for the Commons, will you state how far the refreshment-rooms are removed from the library, by the former plans, and how much nearer they are proposed to be placed by the present plan?—In the original plan, the refreshment-rooms were 150 feet from the library. In the plan now executing, they are within 12 feet; that is to say, they are only separated from the libraries by a corridor 12 feet in width.

267. In Answer 10, in your former evidence, you stated, "the only extension of the building is to the north, by protruding the clock tower from the north front;" the building, then, has not been protruded towards Westminster Hall, has it?—No.

268. In answer to Question 11, you said, "I was about to say, that although great additional accommodation has been provided, and the convenience of the building very much promoted, the area of the building, as now being executed, is, in point of fact, less than the area of the building sanctioned by both Houses of Parliament;" has any account been returned to the Woods and Forests of the saving made owing to the area in this case being less than the area in the original plan?—No; because there is really no saving effected by such diminution; for what is diminished in area is made up for by an increase of height in several portions of the building.

269. In Answer 56 you state, "I have no reason to apprehend that there will be any excess upon the contracts which are now in hand;" then none of the estimates which are now in hand have been hitherto exceeded?—Certainly not; the works are not completed.

270. In page 20 of the Report of 1836, in Answers 251 and 253, it appears that the whole expense of the River front was 12,486 *l.*, added to 21,748 *l.*; those were the original estimates for the whole River front?—That amount is the actual cost of a certain portion of the foundation of the River front.

271. That altogether was the cost of the foundation of the River front?—Of the embankment wall, not of the River front.

272. That amounted altogether to 34,234 *l.*; now you state in Answer 31, "for extra foundations in consequence of quicksands and springs, and for strengthening the foundations of the Victoria and other towers, 35,063 *l.* 3 *s.* 1 *d.*"?—The one item has nothing to do with the other.

273. Have those estimates been submitted to Government?—All the accounts were submitted to Government, and approved.

274. The estimates for the 35,000 *l.* additional, as compared with the old amount of 34,000 *l.*?—All the accounts have been delivered to the Office of Woods, and approved.

275. With regard to the Bolsover stone, in the Report of 1836, the following question, No. 288, is put by the Chancellor of the Exchequer: "Having stated the price of stone at 4 *s.* per foot, is that founded upon the assumption of getting the best stone, in your judgment, that can be prepared for the building?" Your answer is, "It is founded upon the presumption of getting the most costly stone that is applicable for the purpose." At that time Bolsover stone was taken into consideration in making that answer?—Yes.

276. You now state that there is 22,000 *l.* extra for the "probable excess of cost by the use for the whole of the exterior of the hardest and most expensive of the stones selected for this building." That is 22,000 *l.* above the amount of the estimate?—The specification was drawn up so as to include several species of stone, the Government being at liberty to choose any one of those stones; the tenders were therefore considered as average tenders upon the several stones selected, which was done in order to determine which was the lowest, and the amount of the excess on the whole building has been regulated upon the selection of the Bolsover stone.

277. That was at 4 *s.* a foot?—No, less than 4 *s.* per foot; the excess over the estimated amount for the entire building was caused by selecting Bolsover stone for the exterior of the building.

278. The Chancellor of the Exchequer put this question to you: "Having stated the price of stone at 4 *s.* per foot, is that founded upon the assumption of getting the best stone, in your judgment, that can be prepared for the building?" You said, "It is founded upon the presumption of getting the most costly stone that is applicable to the purpose." Then Sir Robert Inglis says, "You mean that the most costly stone, and the most available stone, are convertible terms?" Your answer is, "Yes; in regard to the quality of stones there are several points for consideration;" and then you say, "I should wish to state that one of the oolites is as good and as durable a stone as can be used." Then are the Committee to understand that this sum of 22,000 *l.* is the amount of the "probable excess of cost by the use for the whole of the exterior of the hardest and most expensive of the stones selected for this building?"—Above the average amounts of the tenders, and the assumed amount of the lowest.

279. Had you those in your contemplation at the time you made this answer?—I had it in contemplation to use Bolsover stone, but that was before any tenders were made.

280. Is it necessary to pull down any other buildings to complete the plan except buildings now upon the site?—No others.

281. Mr. *Wyse.*] Have you had any communications with Dr. Reid relative to the improvement of the hearing in the two Houses?—Not officially; I have not been put in official communication with Dr. Reid upon the subject.

282. Do you apprehend, from any communication that you have had, that the arrangements which he might probably propose would entail any increased expense in the building of the Houses?—I have no idea that they would.

283. Mr. *B. Wall.*] Some apprehensions have been expressed with regard to inconvenience from the Member's horses being under cover, with reference to the smell of manure, and so on; will you show the Committee where you intend that they should be, and whether you think that any inconvenience would arise from that circumstance?—That is merely a suggestion; but the

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adoption of it may depend altogether upon any appropriation of the space that may hereafter be thought desirable.

284. *Chairman.*] Might not any objections with regard to noise and smell be to a considerable extent obviated by paving it with caoutchouc?—Yes, I think so, to a certain extent.

285. When do you contemplate, consistently with safety and the proper progress of the works, that the two Houses may be accommodated in the new building?—I see no difficulty in having the new houses completed for the Session of 1846, that is to say, they would then be in a state that they might be occupied. I do not, however, mean to say that they would be entirely finished with all their decorations, because I am at the present moment at a loss to know what those decorations will ultimately be; but I think I might undertake to say that the houses would be finished independently of those considerations.

286. And without temporary fittings?—Yes, without temporary fittings.

287. Lord *H. Vane.*] Do you mean that the whole will be finished by that time, not only the Houses themselves, but all the Committee-rooms and the Offices?—I doubt whether the whole could be got ready by that time. It would be a great effort to get the two Houses completed by that period, and I would not undertake to say that even they would be perfectly free from damp; but the Houses themselves and the fittings might, I think, be finished by that period.

288. *Chairman.*] Would a certain number of Committee-rooms be ready at the same time?—I think a certain number might be got ready at the same time.

289. Viscount *Duncan.*] Is not it desirable for you, as the architect, that the Commissioners of Fine Arts should make a Report generally, as to the nature of the embellishments they may recommend, as soon as possible?—I think it would be desirable, although I do not mean to say that it is absolutely necessary.

290. Mr. *Wyse.*] When you speak of decorations, you refer to pictorial and sculptural decorations, not to the architectural?—I allude to all species of decoration, whether by works of art or by other means of decoration, such as heraldry, &c.

291. You do not refer to the ordinary fittings of the House, such as benches and panelling?—No, except so far as relates to any extra carvings in any portion of the fittings, which might be directed by the Commission of Fine Arts.

292. Viscount *Duncan.*] You stated, in answer to question 180, that there was a suspension of the works, as far as the Victoria Gallery was concerned; does that suspension still continue?—It does.

293. Mr. *Wyse.*] You are aware that the Commissioners of Fine Arts are at present engaged in making inquiries and taking measures for the decoration of the House of Lords?—Yes, I am aware of that circumstance.

294. Do you think that you will be enabled to contract for those decorations at a period sufficiently early to preclude the possibility of delay in the completion of that House?—Without knowing exactly the extent to which the decorations are to be carried, it would be very difficult for me to answer that question; but if any very extensive decoration be given to the Throne, or upon the fittings generally of the House of Lords, it would tend unquestionably to delay the entire completion, but not so as to preclude the occupation of the House.

295. *Chairman.*] You have been several times examined before the Commission on Fine Arts, have you not?—Yes, I have.

296. What course has the examination generally taken; have you been examined with a view to suggestions of your own as to the decorations of the new Houses of Parliament, or with a view to rectify or confirm any suggestions which had been previously made from other quarters to the Commissioners?—I may say, almost without exception, that my examinations before the Fine Arts Commission have been with reference to suggestions of my own for the decorations of the Houses of Parliament, founded upon a Report which I made to the Commission nearly two years ago.

297. Did you ever receive any instructions from the Commission to accommodate any portions of the building to any decorations or embellishments which the Commission might have in contemplation?—None whatever.

298. Your

298. Your attendance, then, before the Fine Arts Commission has been simply for the purpose of giving evidence, and not for that of hearing the opinions of the Commissioners themselves?—Simply for the purpose of stating my own views as to the mode of decorating the two Houses, and not for the purpose of receiving any orders from the Fine Arts Commission as to any specific mode of decoration.

299. In the progress of the labours of that Commission, have not communications been made to you with reference to expense, which, so far as you are aware, have emanated from suggestions made by the Commission, but which orders have come to you through a Department of the Government?—All orders that may be said to have come in the shape of suggestions from the Fine Arts Commission, have been communicated to me through the Department of the Government with which I have been always in communication with respect to this building, namely, the Office of Woods and Forests.

300. Were you not consulted by the Fine Arts Commission as to the best mode of providing for the exhibition of the Cartoons, which took place last year?—Yes, I was.

301. Were you also consulted by the Commission as to the preparation of a particular quality of fine lime for the painting of frescos?—I was.

302. Did you not receive from the Office of Woods, directions to fulfil the suggestions of the Fine Arts Commission with reference to the expenditure which took place in Westminster Hall for the exhibition of the Cartoons?—I did.

303. Did you also receive directions from the Office of Woods, to incur a certain expense in procuring lime of a certain quality from Bristol?—I did.

304. Then are the Committee to infer that on all occasions, as far as you are aware, the suggestions of the Fine Arts Commission have been made to the Treasury, and that you have subsequently received directions to fulfil those suggestions from the Office of Woods?—Most undoubtedly.

305. Mr. *Warburton.*] Has your opinion ever been asked as to any suggestions respecting the decoration of the House, which may have been originally made by the Commissioners of Fine Arts?—None whatever. I am not aware that any suggestions have been made by the Commissioners of Fine Arts, that are inconsistent with the views I entertain upon the subject of the decorations of the two Houses.

306. Viscount *Duncan.*] In question 174 of the Lords' Committee, you were asked, "How comes it that you never made these inquiries respecting the importance of having the Robing-room in a particular place until the plans were so far advanced that you could not place it there without an inconvenience?" Your answer was, "I beg to state that the inquiry was made in time, as the plans are not so far advanced but that the change may be made with the greatest facility. I had the honour the other day of going over the whole building with Prince Albert, and it was a source of regret with his Royal Highness that there was a great want of large spaces for fresco paintings. On my pointing out, however, to his Royal Highness that an opportunity might be afforded of obtaining large spaces in the now proposed Robing-room, at the Throne-end of the House, he was pleased to express his satisfaction at the change." Was there any order upon that occasion given you by his Royal Highness, with respect to the alteration?—None whatever.

307. Mr. *Wyse.*] That was in consequence of his Royal Highness having heard from you, or from others, that such a change was in contemplation; and it was in consequence of its offering greater spaces for fresco painting than other portions of the building?—It was in consequence of his Royal Highness having heard from myself that such an alteration was in contemplation; and it was a suggestion emanating from myself, that if such alteration took effect, an opportunity would be afforded of obtaining larger spaces than have yet been afforded for the purpose.

308. Sir *R. Inglis.*] The Committee understood in your last examination, that such an alteration can be effected without any increase in the aggregate expense of the work?—That is my opinion.

309. *Chairman.*] But still, as far as this part of the examination is concerned, without reference to the question of expense, you have never received directions of any kind, either from the Commissioners of Fine Arts, or from any members of it, for any alterations?—Never at any time.

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310. Then what you meant, in the answer which has been quoted from the Report of the Lords' Committee, was, that you having explained to his Royal Highness Prince Albert the alteration of your original plan, which you intended to propose in consequence of what had transpired at the Commission of Fine Arts, it was approved of by his Royal Highness on behalf the Commission, as meeting the views they had entertained?—Entirely so.

311. Not that you had adopted that alteration in consequence of any suggestion, much less any direction, of the Fine Arts' Commission?—Decidedly not.

312. Lord *H. Vane.*] When you proposed any alteration which involved expense, did you give an estimate to the Woods and Forests, of the expense which you supposed would accrue in consequence of the adoption of those alterations?—Invariably.

Lunæ, 17° die Junii, 1844.

MEMBERS PRESENT.

Sir George Clerk.	Mr. Pendarves.
Viscount Duncan.	Lord Shelburne.
Mr. Greene.	Lord Harry Vane.
Sir R. H. Inglis.	Mr. Baring Wall.
Earl of Lincoln.	Mr. Warburton.
Viscount Palmerston.	

EARL OF LINCOLN, IN THE CHAIR.

David Boswell Reid, Esq., M. D., F. R. S. E., called in; and Examined.

D. B. Reid, Esq. M.D., F.R.S.E.

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313. *Chairman.*] HAS preparation been made in the construction of the Houses of Parliament, under the directions of Mr. Barry, so far as they are at present advanced, for the reception of your apparatus and other provision necessary for the warming and ventilating the Houses of Parliament?—That preparation has been made.

314. Are you desirous that as large a space as can be accorded for ventilation should be allowed for that purpose under the two Houses?—I am extremely anxious on that point; more anxious upon that point from the experience of the last four years, than as to any other almost connected with the ventilation.

315. What space has been appropriated for that purpose under the present portion of the building?—Immediately under the central seats there are only 2 ft. 6 in. (or perhaps a few inches more) of available space under the Houses in the new buildings proper; laterally the space is greater. It was a recommendation of the Committee on Acoustics and Ventilation, in 1835, that the whole space under the Houses proper should be reserved for purposes connected with warming and ventilating. It was expressly understood by the Committee, as reported in the evidence, both of Mr. Barry and myself, that the same view would be adhered to, when they sat in the year 1841, and recommended the adoption of the plans for warming and ventilating. I have heard various views expressed about that space being appropriated in different modes from that originally contemplated, and hearing very recently that the question had not been permanently settled, as I had previously imagined, I am anxious that there should be a distinct understanding as to the appropriation of that space before the buildings proceed further; we are perfectly in time, at the present moment, to have any plans which may be deemed desirable carried into execution; but if the consideration of this question be deferred longer, it will be attended with inconvenience to the progress of the buildings.

316. Are you aware how that space is appropriated at present?—I am not aware that any final arrangement has been entered into on the subject since the Committee met in 1841, though till lately I had considered that to have been the case. It has been suggested that it should be appropriated for horses and carriages. I have also heard other views suggested on the subject; as, for instance, that it should be reserved for records; those are the only purposes which have been mentioned specifically to me.

317. When

317. When you state that it was a recommendation of the Committee that proper space under each of the Houses should be appropriated to the purposes of ventilation, do you not conceive that that recommendation was given in entire ignorance of what space there would be below, whether the Houses would be at a greater or less elevation from the ground; would not the recommendation have varied according to the height at which the Houses would be above the surface of the ground?—Certainly; I always presumed that any such recommendation would have to be considered in connexion with the final arrangements of the design of the architect. On the other hand, should it be found that the space adverted to is not much greater than was originally contemplated for the purpose of ventilation, and cannot be applied to any other very important purpose, then I would beg to submit that anything that would facilitate the adjustment of the ventilation so as to meet the difficulties which constantly arise connected with differences of constitution, should have a preference, as it would be very important in facilitating public business. It would be fair to presume that no such facilities should be lost, merely with the view of occupying a space that might be deemed inapplicable for anything but stores, records, or such other purposes as must be considered altogether secondary with the desirableness of promoting the personal comfort of Members who have to attend sometimes 12 hours consecutively at a single sitting.

318. Would any increased expenditure be necessary if the space you require were accorded to you for the purpose of ventilation?—My opinion is, that the expense would be necessarily diminished if the space were entirely accorded, for there would be no necessity for the groins under the Houses proper for which there is a necessity at present, if it be arched over and a free open space be maintained below the Houses.

319. When you speak of a diminution of the expense, you do not take into account the necessity which might probably arise for finding other accommodation for the purposes to which this space has hitherto been destined?—I certainly do not take that into consideration, because I was not at first aware that that space could be appropriated to any other purpose than that originally contemplated. I feel anxious to represent, also, that were the space appropriated for horses and carriages, it might affect, to some extent, the communication of sound. From the numerous courts, also, which the necessity of the circumstances rendered imperative in the designs for the building generally, each of those courts must be extremely prone to receive and retain all the impurities of atmosphere communicated to them; so that, independently of the importance of the appropriation of a space for regulating the state of the atmosphere supplying the individual benches under the Houses proper, this point likewise demands consideration.

320. To what extent do difficulties occur at present in conducting the ventilation of the Houses?—To a very great extent, in consequence of the different temperaments of different Members, and the different demands made in the same bench at the same moment. I may mention, that I have often had from both Houses messages from Members of the Cabinet and persons attending on important business, which they could not leave, and our only alternative has frequently been to make a local change under the benches occupied by them, or to suit their convenience at the expense of incommoding the House generally, unless they were left subject to an amount of annoyance of which they bitterly complained, from the state of the air being more congenial to those around them than to themselves. I could give numerous instances were it necessary, but perhaps, in the situation in which I am placed, it would be better for me not to mention names, though I am ready if required to give to any Sub-committee numerous instances, where, by those local adjustments to which I now refer, Members of the Cabinet, anxious to remain in the House on particular occasions, have been enabled to remain, under circumstances in which they could not otherwise have remained, without extreme inconvenience to themselves or others.

321. How far do you modify the air under the different benches of the House at present?—To a very great extent; in the House of Peers the air is sometimes admitted solely behind the bar; on other occasions it is admitted solely towards the Throne; at other times, according to the varied number that may congregate in particular districts, the air is admitted warm or cold on the one side or on the other; and in this manner, when I receive information as to the ever-varying feelings of Members, of which no one can possibly judge but themselves, I am enabled to make very great alterations both in the velocity and in the temperature; and, though

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none of these arrangements are carried out so completely as it will be possible to do in the new Houses, even without additional expenditure, we can turn the warm and the cold air on different sides of the House, as well as direct it towards the bar or the Throne.

322. What are the highest and the lowest temperatures which have been demanded in the House of Commons and in the House of Lords at the same time? —Fifty-two to 75 is the amount of the variation. I should be glad to add that my own impression is, that the temperature might be sustained higher than it usually is, but it is not generally understood that the thermometer is no indicator whatsoever of the probable influence of the state of the atmosphere upon the feelings in any apartment, subject to any system of ventilation whatever, the influence being always compounded of the velocity along with the temperature, and further modified also by the electrical condition of the atmosphere and the amount of moisture present.

323. Would it be sufficient to maintain an average velocity and temperature at all times in the Houses?—We have endeavoured to proceed from the commencement on that system, but we have found the complaints so numerous where individuals have come up at the same moment who had been sitting on the very same benches, one complaining of heat and another of cold, that I am satisfied it would be an object of great importance to be enabled to extend those zones of varied atmospheres which have been, to a greater or a less extent, in operation ever since the present system of ventilation was introduced.

324. Are Members aware of the modifications you can introduce at different benches at the same time?—I believe they are not aware of the extent to which such modifications are necessary for the accommodation and comfort of the House. When the present system was introduced, I wrote a letter, which was afterwards printed, having been moved for in the House, with a view of making it known; but I think latterly the subject has, perhaps, escaped attention. A few years ago Members were generally more aware of the peculiarities of the ventilation, and gave us more information of the state of their feelings than they do at the present moment; I could mention cases where individuals have been present both in the House of Peers and in the House of Commons, and subsequently they have stated to me how uncomfortable they were, and I have represented to them the necessity of their communicating such information to us; for on numerous occasions, if a hint is given, we can often modify the atmosphere, within a certain range, to the satisfaction of all parties; but if no information is given, we have no possible means of judging of the degree of modification which it may be desirable to make, except from such modifications as apply generally to the whole House. I need scarcely state, that in all I now refer to, I speak of special cases, where perhaps a slight illness, or peculiarity of temperament, or of the circumstances of the moment, render local adaptations desirable; the alteration of the circulation in individual constitutions, as the evening advances, as it is more remote from the period of dinner for instance, or from the period at which any Member may have been addressing the House, the amount of excitement, and many other causes, tend very materially not only to affect the feelings, supposing the state of the atmosphere to continue without change; but the extent to which the condition of the air itself is modified by such circumstances, varies with the condition to which the frame may have been reduced by previous exhaustion. Thus Members who may have found any particular atmosphere exceedingly agreeable at one hour, may find the same air very uncomfortable at another, from changes which have taken place, not in the air, but in their own frame.

325. You have stated that more space will be required under ordinary circumstances, for the purposes of ventilation, than is at present appropriated; is not a very large space appropriated at present for ventilation, which has been provided at a great expense?—There is a considerable space afforded in the basement, and the ventilation has with many had the credit of having had that space provided specially for it; but I would beg to remark, that the circumstances of the case are really these: the space in the basement, which is very frequently mentioned to me by Members of both Houses, would have been provided originally, and was marked in the original plans before I had anything to do with the ventilation, though the form of the vaults, not already built, was changed in unison with the plan recommended for ventilation. Part was actually provided on the river front, without any reference whatever to the ventilation, before I entered on any duties at the New Houses, or saw what had been already done; and I have used the term appropriation

tion of the space I have now referred to, on the presumption that it was to be devoted to no special purpose, being informed a large portion of it would in reality have been filled up with rubbish, had I not represented that it would form a magnificent series of vaults for cooling the atmosphere in sultry weather, the greatest difficulties in conducting the ventilation always occurring then. Again, the necessities of the case rendered numerous courts within courts necessarily a part of the design, in accumulating so many apartments within the space allotted. If air were taken in from the courts, there would be no possibility whatever of obtaining it, either for the private dwellings or the public apartments of the House, except from a source which, in all buildings built at the present moment, is considered the most objectionable source from which it can possibly be taken; therefore when reference is made to those vaults, in connexion with the ventilation, I think it is but fair that this statement should also be presented: beyond these vaults, which conduct air from the Victoria and Clock Towers, and which must have been built under any circumstances for the foundations, I am not aware that there is any extraordinary expense incurred for the ventilation beyond such as would not be necessary in ventilating any ordinary apartment, with the exception of what are connected with the many peculiarities of the case, including the withdrawing, by the central shaft, the local impurities, which would otherwise descend into the courts, whether from common chimneys, had they been used, or from any other source.

326. You stated, in answer to a former question put to you, that the present provision for the ventilation of the Houses proper, amounts to only 2 ft. 6 in. under the floor, the centre of each House, though at the sides the space is greater; will you state what increase of space you would require in the centre of each House? —I think the increase of height ought to be such as would enable an attendant to go with facility and convenience to any bench, and cut off the ventilation entirely, or modify it, as the circumstances of the moment may render desirable. Such a power we have in the present Houses to a very considerable extent; but in order to meet those circumstances that have been forced upon my attention again and again, in studying the subject in connexion with the wants of the present Houses, I do feel that nothing would give so much relief to numerous individuals as the power of adjusting thoroughly the atmosphere under the bench on which they sit.

327. What height is there under the centre of the present House of Commons? —There is at least 12 feet.

328. Is not that considerably more than would be requisite in the new Houses? —It is more than would be absolutely necessary; if it was extended to seven or eight feet it would be sufficient. At the same time, if further accommodation were given, the space below not being required for any public purpose, this would give increased power of modifying the state of the atmosphere below the House.

329. When you say seven or eight feet would be required, do you mean seven or eight feet additional?—Seven or eight feet in all.

330. Would not the appropriation of those vaults underneath the Houses, in addition to the space already allotted to you, be considerably more than sufficient?—It would be more than sufficient if the spaces now referred to were in juxtaposition. At present they are divided by the open area on the level of the ground floor. The additional accommodation adverted to, if not required for other purposes, would be desirable in this respect also, that it would afford the means of transmitting directly air from the central hall beyond the Houses proper. At present we are under the necessity of making arrangements, so that when air shall be transmitted to the Houses proper, any air transmitted beyond those Houses must descend into the vaults, and there pass up again, complicating very considerably the movement and adjustment which are thereby required for the play of the currents. For instance, since the Victoria Hall has been added, beyond the House of Peers (I suppose that we are looking from the central hall), we cannot supply it in the most efficient manner, according to the system which will be introduced in connexion with the arrangements now in progress, except by a descent, so that we shall have the return air moving south towards the Victoria Hall in an underground current, while that to the House of Peers moves at a higher level. If this space should be of very little advantage for any important purpose, being only 9 ft. 8 in. high, and in a place where light is difficult of access, the provision of one continuous flow will at once do away with the necessity of numerous complicated movements, which it will be evident cannot be so readily directed or controlled.

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331. Viscount *Duncan.*] You say that it is in a situation in which light is difficult of access; will you explain why it is difficult of access in that particular situation?—I refer more specifically to the central space running in a line with the Houses proper, and forming part of the ground floor, to which therefore light has no access, except from either side, the corridors and Houses proper covering it above.

332. Mr. *Greene.*] Is it not the case, that under the present House of Commons there are two chambers, one beneath the other, for the purpose of mixing the air for the use of the House?—There are.

333. When you spoke of allowing 12 feet, did you mean that that 12 feet was to comprise those two apartments, or only one of them?—I meant that space referred to to comprise both, because in the New Houses we shall have certain facilities at either end for controlling the state of the atmosphere, which we have not in the present Houses.

334. The upper apartment of those two is the least?—Yes.

335. About what height is that?—From two to three feet, with a greater height laterally as the benches rise.

336. For the purpose of facilitating the cutting off the ventilation from different parts of the House, ought not that room to be higher?—That would certainly give facilities; at the same time, I have looked at the case in this manner: should there be any necessity for the appropriation of that space for any purpose unconnected with the ventilation, seven feet is the least we could do with and effectually relieve the wants of the House, unless a certain complexity of apparatus for examining and regulating the air under each bench be introduced, which it is desirable, if possible, to avoid. But I do consider, that though we could very well make use of the space by the facilities given at either end of the Houses proper, there is nothing so important as to secure a free and easy access to every individual bench.

337. Viscount *Duncan.*] In fact, you could do without the additional height, as far as the ventilation is concerned?—Yes, with that beyond the seven feet referred to. Allow me to mention, that at present I have occasionally had to travel 40 feet in a space only 18 inches high, or rather managed to move along as I could, in studying the play of the currents at particular places; but no one can make those adjustments that are frequently necessary, at least with any satisfaction to themselves, unless they know the actual state of the atmosphere going in at the entrances which supply the benches occupied by the Members assembled, and have the power of examining the influence of local eddies. What I wish to attain is, that any attendant shall have the power of knowing personally what is the nature of the air that supplies any particular bench; without that, if called on to alter the character of atmosphere supplied to it, he cannot do it precisely. Further, if he cannot obtain convenient access to each bench, so as to render it probable that he will make each frequently the subject of examination, we cannot expect that it will be attended to as it ought to be.

338. When were you first consulted about the ventilating the Houses of Parliament?—By the Committee on Acoustics and Ventilation, in 1835. With regard to the New Houses of Parliament, I was first consulted about the end of the year 1839.

339. By whom?—By communication with the Office of Woods and Mr. Barry.

340. Have you been consulted often since on the subject?—I have been for the last four years constantly in communication with the Office of Woods and Mr. Barry.

341. Have your designs on the subject of ventilation been completed?—They can only be completed with the progress of the building. So far as the building has been advanced, the necessary arrangements have been made.

342. Mr. *B. Wall.*] You have stated that you had a desire to have more space for the purposes of ventilation; is there any difference of opinion between you and Mr. Barry upon that subject?—Essentially, I am not aware of any difference of opinion between us; but there are various claims upon the space to which I now refer, and Mr. Barry has entertained an opinion that it might be desirable that it should be appropriated otherwise than I have advocated. I believe Mr. Barry is disposed to afford what is necessary; at the same time the subject is not so clearly or definitely laid down between us as is desirable, and I was anxious, before the works advanced further, that I should know the manner in which the space I have referred to is to be finally appropriated between the Houses.

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343. Will you state the space below the Houses which you consider yourself entitled to; the space which, if you had your own way, you would wish in addition to the present?—If I were to consider it in the manner last represented, I should think the whole space below the Houses proper (excepting that under the corridors), under the place where Members sit at times for 12 hours consecutively, could not be applied to any purpose so important as the full and unrestricted development of those means that will secure all parties, to the greatest extent possible, from personal discomfort. I think I ought to press for the consideration of the Committee, at least seven feet clear betwen the crown of the arch (below the principal floor), and the joists which support the floor, and I know of no purpose to which the remaining vacant space can be so advantageously applied, as for increasing the power of preparing modified atmospheres.

344. You consider that a question which must rest with the department of the Woods and Forests?—I have mentioned that subject generally, and I merely wish it should be taken into consideration in whatever way should be deemed expedient, before the buildings advance further. I have mentioned it, in the first place, to Mr. Barry, and I have already made a communication on the subject to the Woods and Forests.

345. Can you state the date of your last communication with the Woods and Forests upon the subject?—My last communication was on Tuesday last.

346. Lord *Shelburne.*] Will you have sufficient access to each individual bench with the space which is already allotted to you?—With great difficulty and much inconvenience.

347. Mr. *Greene.*] When you speak of seven feet, do you mean that that should be divided into two chambers?—I do not consider it necessary to have two chambers in the new Houses, disposed in the same manner as the two chambers in the present, for the structural arrangements in the Houses proper will necessarily render it imperative to make the details of the subdivisions to produce an equivalent effect different from those adopted in the present Houses. For instance, there is, in the present Houses, a main tube below, passing into an equalizing chamber above, but if certain arrangements are followed with respect to the spaces under the Houses proper, the main current may pass longitudinally under the sides, where there is more room, and afterwards merge laterally into an equalizing chamber.

348. By the equalizing chamber you mean the higher chamber?—Yes, in the present Houses, but it may be made laterally in other places. We may have the general movement of supply longitudinally, and the equalization partly above, but proceeding laterally from the centre, or according to a variety of other arrangements, such as local circumstances may dictate.

349. That seven feet which you contemplate would of the two be the equalizing chamber?—It would be partly the equalizing chamber, having also a larger space within itself, appropriated to the conveyance of the air supplying the equalizing chamber.

350. Is it necessary for the equalizing chamber to be of so great a height as seven feet?—I do not consider that any space beyond 2 feet 6 in. is necessary for the equalization. The only point I am anxious to press upon the attention of the Committee is the extreme importance of allowing the attendants below to know precisely the state of the atmosphere that supplies each bench; and if a ready access be not given to that, I fear that the attainment of this object will be so difficult that it will be comparatively neglected.

351. When you speak of the crown of the arch, what is there below the arch?—There is a space of nine feet in height, supposing the seven feet now referred to be afforded, a space of about eight or nine feet; and it is that space I now refer to, on the ground floor.

352. You say, from the crown of the arch you would wish seven feet?—Between the top of the arch and the plates that support the floor of the Houses proper.

353. The plates that support the floor are above the arch?—Yes.

354. What is there below that arch?—If we penetrate that arch, we come to the open area below the Houses proper, which, according to one plan, would be appropriated to horses and carriages, but which could not be so appropriated if the reduction proposed were adopted. This same space would afford decided facilities for ventilation; but I do not consider it right to press for this appropriation, if it is space required for any important purpose.

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355. But if not important for another purpose, it would be desirable that it should be used for a ventilating chamber?—Certainly; independently of the arrangements adverted to in connexion with the Houses proper, it would facilitate the movements in the air channels, necessary for the Victoria Hall, on state occasions, and the different adjustments with reference to Committee-rooms.

356. Viscount *Duncan.*] Is not the Victoria Hall called the Victoria Gallery?—It has been designated by that term.

357. Have you seen the last plan submitted to the Committee?—I have not seen certain plans which I understand have been submitted to the Committee. I understand that there have been various plans brought before the Committee, but whether they differ from others which I have seen or not I cannot say.

358. Has any alteration taken place in the height of the Victoria Gallery?—Of that I am not aware, if reference be made to any very recent alteration. I ought to state, that when I was informed that I was to be examined here to-day, I requested to see any new plans that might affect the ventilating arrangements, and it was stated to me in reply that there was nothing that specially affected that question; I believe, therefore, I have already seen everything at present connected with my own department.

359. Supposing the Victoria Gallery is carried up to the same height with the roof of the House of Lords, will that have any injurious effect on the ventilation of the building?—None whatever; it is decidedly in favour of the ventilation.

360. *Chairman.*] Are you aware whether the alteration of the height of the Victoria Gallery was made in consequence of suggestions on the subject of ventilation, either by yourself or others, before the Committee which sat in 1842?—I am not aware of all the causes which have contributed to the alteration of the plans by which the increased height was given to the Victoria Hall or Gallery; but certainly I have always represented this, that it is an important point to endeavour, in any large building where there are numerous ventilating arrangements, that all vitiated air should drain upwards, just as water is allowed to follow its natural gravity, and descend in any ordinary current; therefore I have always maintained that it is desirable that there should be no descent of vitiated air where practicable; to avoid that, at the same time, had any other channels been given round by the river front of equal magnitude, they would have essentially satisfied the same purpose as a channel over the Victoria Gallery. They must have had this disadvantage, however, they would not have allowed openings so equal in magnitude on the different sides of the Central Tower, and would therefore have been less favourable to the architectural structure, on the different openings, north, south, east, and west, which receive the vitiated air from the main ventilating lines on the roof.

361. Are the Committee to understand the result of your answer to be, that although you never represented the convenience of having the Victoria Gallery raised in height, you have given such evidence as might fairly lead to the inference in the mind of the architect that such an arrangement would be very desirable?—Certainly.

362. Viscount *Duncan.*] With a view to the ventilation of the Houses of Lords and Commons, is it necessary that the Central Tower should be erected at the same time as the Houses of Lords and Commons?—Yes, this is essential, if the ventilation is to be placed on the most extended footing, when the Houses are occupied for the first time. Temporary provision may be made for carrying out such ventilation as may be necessary in those places which it may be intended to occupy before the tower shall have been completed.

363. Mr. *Warburton.*] In case of any premature occupation of the Houses, should you have any difficulty in providing for the temporary ventilation of the Houses, at a moderate expense, before the ventilating tower is built?—I should not.

364. Lord *H. Vane.*] Have you any idea of the cost of such temporary arrangement?—I have merely looked at this question in reference to the House of Peers; the expense there would be about 340*l.*

365. *Chairman.*] In addition to the expense, would there be any objection in respect of the efficiency?—I do not apprehend there would be any evil from inefficiency, unless the building were not properly dried. The machinery and every thing essentially necessary for sufficient temporary warming and ventilating might be in action, but until the walls should be thoroughly dried the air would not be so good. I could not state, without a reference to some specific time, whether any inconvenience

inconvenience might or might not be apprehended from the state of the atmosphere in the apartments. If it was essential to dry with great rapidity, temporary apparatus for warming and drying, to a considerable extent, might be necessary beyond what is included in the estimate I have mentioned, viz. 340*l.*

366. Lord *H. Vane.*] Would that entail a very considerable expense?—I should apprehend not, for the materials which might be used for that purpose are such as might be retained as stores for the rest of the building; at the same time, there are always questions connected with rapid drying, and the mode in which extremely rapid drying affects certain textures, and these ought to be considered apart from the previous question.

367. Mr. *B. Wall.*] Independently of those temporary provisions, can you state whether there will be any excess in the sum expended on ventilation over the estimate?—I could scarcely state anything definite on that point, without entering specifically on the various details connected with it, and in communication with Mr. Barry. In the architectural department the changes which have been made have rendered corresponding alterations necessary in carrying on the ventilation since the estimate was given in; for instance, in the original flues in the roof, certain leading channels were adopted, and these were taken into consideration in the estimate formerly given in to the Chancellor of the Exchequer; but there have been very great alterations made in those flues, consequent upon the appropriation for other purposes of the space originally intended for them. Further, there are flues that have been carried up in the building which have been rendered useless by subsequent changes; so that unless the expense for apparatus be separated from that for architectural structure, I am not prepared to answer that question, except in communication with Mr. Barry.

368. In point of fact, there must be something of united responsibility?—We must play into each other's hands in forwarding the arrangements for the ventilation; I must have the air channels which are requisite, and those must necessarily be intertwined with the progress of the structure.

369. There can be no doubt that the alterations which have taken place must necessarily have entailed additional expense?—Certainly; they must have entailed additional expense.

370. Viscount *Duncan.*] When you found that alterations were necessary, did you report them to the Woods and Forests?—I have not had any communication on any point except on my own department; any architectural construction necessary for warming and ventilation was provided by Mr. Barry.

371. Mr. *Warburton.*] You considered it in Mr. Barry's department to communicate with the Woods and Forests on the structure?—I should consider it a question entirely in his department, if it referred solely to the structure of the building.

372. Mr. *B. Wall.*] You stated that it was only on last Tuesday that you last communicated with the Woods and Forests, and that you had been in the habit of communicating with that department for the last four years; have the goodness to state whether, before the appointment of the Committee to inquire into the building of the Houses of Parliament, any long interval had elapsed during which you had had no communication with the department of the Woods and Forests?—A very long interval has elapsed. I have rarely communicated with them, because, so long as I considered that Mr. Barry gave what was desirable for the ventilation, or that the matter was so clear that there could be no doubt about it, and I apprehended no difficulty, I considered that it would have been uncalled for on my part to have made any communication; but on the present occasion, it appeared to me that there would be some difficulty if matters were not finally adjusted soon, and therefore I was anxious that it should be fully considered at present. I spoke to Mr. Barry on the subject before communicating with any other person, and I mentioned subsequently, after objections were stated to him which had been advanced by others recently, as well as by myself formerly, to the allocation of horses and carriages under the Houses, that it would be very important that this question should be minutely investigated, so as to afford the space there for ventilation which I had formerly ceased to require, because different views were then expressed as to the sub-hall for horses from what appear now to be entertained. I ought to mention, that at that former period I agreed, with much reluctance, to the reduced height under the Houses proper, but many circumstances have been mentioned to me very recently, which have led me to hope that I may now look for a different decision; and I have had no hesitation in

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stating the anxiety I have had on this question to Mr. Barry, who I believe is not unwilling to accord some additional space for the ventilation, if Members shall not desire to have a sub-hall for horses and carriages.

373. The constant architectural alterations taking place have thrown great difficulties in your way?—I must say that they do; that I have recast some parts of my plan four or five different times, in consequence of alterations.

374. *Chairman.*] When you say you have recast them, you mean you have adapted your plans to Mr. Barry's plans, not that any works have been erected and then pulled to pieces?—Certainly not, only the plans.

375. You do not consider yourself able to give in to the Office of Woods any architectural plan, even if called on to do so?—I do not profess architecture, though I have directed and superintended numerous architectural plans, with the assistance of a practical architect, and some which were designed and executed without any such assistance.

376. You do not profess to give an estimate of the works necessary to carry out your plans?—I profess to give an estimate of every thing connected with the apparatus, and machinery, and with all that may be strictly essential to my plans.

377. But not the architectural arrangements for carrying out that plan?—Not those required in the New Houses of Parliament.

378. Has your constant habit been to communicate with Mr. Barry as to your views of carrying out the best system of ventilation, and to leave to Mr. Barry to put them into an architectural form, and to make an estimate according to your suggestions?—Not always to that extent; anything affecting the structure or external appearance has always been taken into consideration by Mr. Barry, but anything with respect to the structure or form, affecting the quality or quantity of the air, or my modes of operation, have always been entered upon by me; excluding what might be considered essentially architectural, and not influencing the nature of the ventilation.

379. You can give an estimate for such an apparatus as is necessary for carrying your plans into effect, but Mr. Barry has the power to put the estimate in a complete shape?—Yes.

380. Was it not the case that when a very large estimate was laid before the Committee of the House of Commons for providing for warming and ventilating the Houses, the scientific part was estimated by you, and the architectural part by Mr. Barry?—Yes.

381. Lord *Shelburne.*] There is no erection of buildings in your estimate?—No; all that comes into Mr. Barry's department. The amount for apparatus will be seen in the estimate in 1841, along with that for which Mr. Barry gave an estimate; there is a considerable sum included which is connected with the vaulting. I think the vaulting ought not to be attributed to the ventilation, because those vaults were necessary below the ground, for attaining a sure foundation. It is quite clear that the greater portion of those vaults must have been closed on the groundfloor, and that they would, for any purpose where daylight is essential, be totally useless. I should wish to take this opportunity of mentioning, that many of the statements connected with ventilation which have gone abroad to the public, are exceedingly inaccurate, and that 40,000*l.* or 50,000*l.* might be justly taken from those usually reported. I saw printed in a journal the other day, that the estimate was 100,000*l.* In the first place, there was an excess of 14,000*l.*, an excess above any official statement that ever appeared; another, a deduction of 21,000*l.* ought to be made for additional fire-proofing structure, which is not required in any way for the ventilation. It appeared to have been connected with it in the most accidental manner possible. It was at one time objected to me that some of the ventilating flues would require to be fire-proof; I stated, that we could not have too much of the material fire-proof in such a building, and after that additional fire-proofing to the extent of 21,000*l.* was agreed to, which appeared first in the ventilation account. Again, the central shaft that has been adopted for the ventilation, has been stated in Mr. Barry's evidence to form an important additional feature in the architecture of the building; and surely, if an equivalent ventilating effect could have been produced, as it certainly could to a great extent in another place, with brickwork, where extra ornamental work would not have been necessary, in estimating the expenditure on this central shaft, its architectural appearance ought not altogether to be kept out of view, though

it

it also combines advantages for ventilation which no other plan would have satisfied.

382. Mr. *B. Wall.*] After all those deductions, what do you allow for the expense?—£. 34,000 was the calculation I had formed in 1841; I think the sum ought to vary from 34,000 *l.* to 64,000 *l.*, according to the views entertained as to the central shaft, and the additional fire-proofing. Mr. Barry states in his evidence before the Committee of the House of Peers, that he thinks that 44,000 *l.* may be fairly attributable to ventilation.

383. Sir *G. Clerk.*] Have any material changes in your system of ventilation been rendered necessary, in consequence of alterations in the building since the Committee met in 1841?—I should say no material changes; there has been a great many alterations of detail, but none to affect the general plan.

384. There has been no change which, as far as your department is concerned, has materially increased the expense of ventilation, since the Committee of 1841 reported upon that subject?—I think there are some that have increased the expense, but I ought not to say that without communication with Mr. Barry. The original plan was, that all the ventilating flues should be erected in the roof; now they are carried principally at a lower level, but how far any increase of expense (if any shall ultimately be found to have been incurred from this cause) ought to be ascribed to the ventilation, or to the Houses proper, is a question that may admit of discussion.

385. Are those the flues for removing the vitiated air?—Yes.

386. Lord *Shelburne.*] You stated before the Committee of the House of Lords, and again stated to-day, that you wished complaints to be made by individual Members, with reference to the atmosphere?—I did.

387. Do you not think that if that system of complaint were universally adopted, just as many individuals would be displeased as would be pleased by the alterations that were made?—I think the case would be different, from my experience of the last four years. When no Members complain, and sit in an atmosphere which they dislike, we have no possible means of ascertaining their feelings. Their own feelings perpetually fluctuate. If they do complain, we have some means of knowing the precise condition at the moment of the external atmosphere, which we can control, and their own feelings, which we cannot control. If every individual complaint was attended to, then of course nothing but confusion would ensue; but the knowledge of the feelings of Members, whenever it amounted to such an extent as to make an individual uncomfortable, would assist greatly in enabling us to provide that atmosphere which would be most advantageous. A Member of the House of Peers, sitting on one of the benches a few evenings ago, stated that the atmosphere was so intolerably hot that he could not bear it, and another that it was freezing. I mention this to show the difficulty of ascertaining the precise influence of the air at the same moment upon different constitutions. That same evening, when I was required to make the atmosphere colder, I stated that it was so cold already, that I was exceedingly anxious to consult a particular Member who had generally complained of the atmosphere being cold ever since the alterations were made. I did consult that Member, and, for the first time for five years, he stated that evening that it was too hot; so that the endless changes, for which it is impossible to provide without a precise knowledge of circumstances, are so great, that too frequent opportunities of ascertaining the effect of certain conditions of atmosphere cannot be given. Again, a Member who may have been unwell, after coming down for the first time after his illness, often requires a special atmosphere. We could put his bench on a particular footing, in many cases, for the evening, and this would be very desirable, and prevent frequent sources of complaint.

388. Mr. *Warburton.*] Can the fresh air be filtered from smoke and dust?—It will be filtered in the New Houses to a greater extent than ever has been done in the Old Houses, as far as the extent of the arrangements in the vaults will admit; extensive arrangements are being made for that purpose; but the air coming in at an altitude of 300 feet, will be of a much purer quality than it has been practicable to attain at the present moment.

389. Sir *R. H. Inglis.*] Will you state to the Committee the process now adopted for washing the air before it is heated, and again before it is put into circulation?—The process consists essentially in passing the air across an extensive moist surface, or in producing an artificial shower, by jets of water dashing in every direction, through which the air is made to pass, so that an immense number

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of particles of soot and other offensive materials are detained before the air passes to the ventilating channels. The mere screening gives on an average from 100,000 to 200,000 pieces of soot, which are thus kept out from the Houses proper during a debate in a winter's evening, when the wind is easterly. Lime-water and other chemicals might frequently be used with advantage.

390. Mr. *Greene.*] With reference to the space on the groundfloor under the House, which you say might be appropriated beneficially for the purposes of ventilation, but which you state it has been intended to appropriate to horses and carriages, would not the fact of horses standing there have a tendency to interfere with the ventilation of the general area round?—Very much. From the manner in which the courts are laid out, and the limited space on which the Houses are to be built, it would be impossible to have the horses and carriages there without developing a vitiated atmosphere in those courts. To such an extent have I felt the effect of this objection, that I have always suggested, and hope still to obtain the power of ventilating the courts themselves to a limited extent by the ventilating shaft.

390*. Not only would those vaults be valuable to you for the purposes of ventilation, but it would be extremely mischievous to apply them to any purpose connected with horses standing there?—I should think so. I should also be alarmed for the effect of sound, as there is nothing whatever between the floor of the House and the space for the horses, except the groine arches.

391. *Chairman.*] Does not the space at present appropriated to your ventilation intervene?—There is nothing between that and the open floor, and at present any debate can be heard from the House of Commons through the porous floor. We can hear Members in the shaft, while nearly 200 feet distant from the House, when the Member speaks with a loud voice. The open floor formed one of the alterations which improved the discharge of all sound which had passed across the chamber. It is quite easy to follow a debate in the ventilating chamber below.

SIR GEORGE CLERK, BART. IN THE CHAIR.

The Earl of *Lincoln*, Examined, in his place.

The Earl of *Lincoln.*

392. Mr. *B. Wall.*] YOUR Lordship is First Commissioner of Woods and Forests?—I am.

393. How long has your Lordship held that office?—Since September 1841.

394. Will you state whether the communications which have passed between Mr. Barry and yourself, with reference to the building of the Houses of Parliament have been all in writing, or whether any have been of a verbal nature?—I have frequently had conversations with Mr. Barry on various points, but no material alteration of the plan has been brought under my notice except in writing.

395. Can you state what alterations have received the sanction of your office subsequently to the amended plan which Mr. Barry laid on the table of the Committee the other day?—A week ago I went over the Houses of Parliament with Mr. Barry, in company with Sir Robert Peel, and we were decidedly of opinion that a lobby between the extreme end of the Victoria Gallery and the House of Lords, might be added to the intended plan without any material derangement of the body of the structure, and with considerable convenience to the Members of the House of Peers. We also concurred with Mr. Barry in his suggestions for the alteration of the access to the robing-room, and assented provisionally, if I may so say, to a slight alteration in the staircase. The additional expense entailed by these alterations has been reported from the Office of Woods to the Treasury; and if their Lordships shall sanction that expenditure, the works will be proceeded with in an amended shape.

396. Will those alterations entail considerable additional expense?—About 800*l.*

397. Has it been the habit of the department over which your Lordship presides to ask for plans from the architect?—May I beg to ask whether you mean plans for any alterations which Mr. Barry has received directions to make in the plan originally sanctioned by the Committees of the two Houses?

398. That is what is intended?—No.

399. When

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399. When alterations have been proposed, has it been the habit of your department to call for an estimate of the additional expense which will be incurred?—An estimate has invariably been furnished, the more usual course being not for the Office of Woods to put the question to Mr. Barry, whether the alteration will entail expense, but he has himself reported it, and has rendered it unnecessary to put the question.

400. Where those alterations did entail expense they were of course submitted to the Treasury?—Yes.

401. Would it, in your opinion, be inconvenient to produce the Treasury's sanction for all such alterations?—There can be no inconvenience in their being produced, if there is any doubt upon the matter of fact. They would of course give no other information to the Committee, or to the public, than a certificate that such authority had been given, because, as the Committee must no doubt be aware, an authority of that kind is a mere formal letter, conveying no information beyond that single point.

402. In the Evidence before the Lords' Committee in the present Session there is a reference to the contract with Messrs. Grissell & Peto, it which it is directed that if any alteration be made, it shall be done with the sanction of the Office of Woods and Forests, or the Lords of the Treasury; does your Lordship consider that as including all alterations, or only those alterations which entail additional expense?—I have not examined the extract produced before the Lords' Committee, to which allusion has been made, with reference to its context, but upon the face of it it appears to me that it has no reference whatever to any general plan of Mr. Barry; that it has reference only to the contract entered into with Messrs. Grissell & Peto for particular parts of the Houses, and that in that contract it is stated that no alterations shall be allowed to be made without the authority mentioned; but I do not understand that that applies in any way to Mr. Barry's general plans.

403. In the extract from that contract the words, "with their sanction," occur; does your Lordship understand by that expression the sanction of all, that is to say, of the architect, the Woods and Forests, and the Treasury?—The three parties to whom the words "their sanction" refer, being put disjunctively, I should not say that those words necessarily required the consent of all three parties; but practically I am certain that the architect would not on any occasion take upon himself to sanction any deviation from the contract which should justify the contractors in demanding more than they were entitled to under their contract, or in fact any deviation which was of the slightest moment or importance.

404. Does your Lordship think that there will be any objection to a half-yearly report being submitted by the architect to the Woods and Forests, stating the progress of the works, the alterations, the additional expense, if any incurred, the number of men employed, and other particulars?—I see no objection whatever to such a report being made. I would suggest, that if the architect were directed to make any such report, the words "Additional expense, if any," should be omitted, as that would rather imply that the architect is entitled to make alterations of that nature without the sanction of the Treasury and the Office of Woods, which I maintain that he is not.

405. Do you think there would be any objection to such alterations being marked distinctly in the plans deposited in the libraries of both Houses of Parliament?—I see only this objection, that it would be courting objections from individual Members of the House, which I think on many accounts extremely undesirable.

406. Referring to Mr. Barry's statement, in page 20, before the Lords' Committee, in April 1844, subsequent to the answer to Question 131, he says, "That being left to act without detailed instructions with regard to the plans, he conceived it was intended by the Government that he should be left to improve upon it, provided he did not depart from any of the leading principles of the design, and that he has been confirmed in this impression, inasmuch as when he has been required by the Government to make any addition or alteration in the building, he has never been called upon to deliver any plan to show in what manner he proposed to effect it." Do you not think that it would be advisable that the Woods and Forests should always ask for and be in possession of such plans?—I see no particular advantage in such a course; although if it is to be distinctly understood that the Commissioners of Woods are not to be responsible for those plans,

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I should, on the other hand, see no particular disadvantage; but I am quite sure that any practical course, which in a great national building of this kind removed the responsibility from the shoulders of the architect, who ought to bear it, and is the most competent judge of all the details of the building, to the Commissioners of Woods, who are not practical architects, who may be men of no taste whatever, and, as a fluctuating body, are quite unfit to superintend, in all its practical details, the erection of a building which must extend over a great many years, would be extremely inconvenient and prejudicial. If the deposit of plans is to be a mere official act, and the Commissioners are not called upon to exercise a critical judgment upon those plans, I see no objection to such a course being adopted; but if it is expected by the public, or a Committee of the House of Commons, that they are to exercise a critical judgment upon the plans, and either to direct Mr. Barry to make alterations, or prepare further plans, or make amendments in his plans, I should dissent most strongly from any such practice, and should only most unwillingly adopt it in obedience to the direct orders of the House of Commons.

407. Mr. Barry's impression appears to be, that the alterations in the Victoria Gallery were matter of detail; was any specific estimate of the expense to be incurred sent in, and can the Treasury Warrant, sanctioning it, be produced?—I believe no expense whatever has been incurred in any alterations that have taken place in the shape or construction of the Victoria Gallery; that is to say, that if there be any small additional expense by the increase of the height of that gallery, a proportionate decrease has occurred by the removal of those portions of the building which were formerly to have occupied that space; and that therefore, under the regulations under which I have considered that Mr. Barry and the Office of Woods were separately acting, it was not necessary to report any such alteration to the Treasury, and, so far as I recollect, no such report has ever been made.

408. Would it be inconvenient to produce the correspondence with regard to the Record-office?—There would be no inconvenience whatever, if the Committee think that it can give them any useful information, the history of that correspondence being simply this: that Lord Langdale, apprehending great danger to the Records from their present location in the Carlton Ride, though considerable expense has been incurred to make that building as fire-proof as it was capable of being made, a communication was made by his Lordship to the Treasury, requesting that a more secure place might be provided for the Records. The Treasury applied, as they usually do in such cases, to the Office of Woods for information upon this subject. The Office of Woods communicated with Mr. Barry, and directed him to endeavour to provide within the building of the Houses of Parliament such accommodation in addition to that originally contemplated in the Victoria Tower as may meet Lord Langdale's views. Mr. Barry has not as yet reported his plan, not having, I believe, matured it, and therefore the correspondence is incomplete; but if the Committee wish for that correspondence, it can undoubtedly be laid before them.

409. In page 37 of the Lords' Evidence, at question 254, Mr. Barry, in answer to a question which their Lordships put to him, as to what were the alterations for which he had positive orders, states, that they are enumerated in the paper which he handed in on his last examination; referring back to page 31, to the paper put in by Mr. Barry, which comes subsequently to the question and answer 223, will your Lordship have the kindness to state whether you consider that Mr. Barry had positive orders for all the alterations enumerated by him in that statement?—If I rightly collect Mr. Barry's answer to the Committee of the House of Lords, he did not state that he had direct authority for all those alterations; what I think he stated was, that he had direct authority for those alterations which entailed expense, and that the remaining alterations were rendered necessary by other alterations which had been directed, but that these had not caused increased expense. If Mr. Barry intended to convey the impression as stated, that for the whole of those alterations which are here enumerated he had received direct authority, he is clearly in error, as there are several of those for which no written authority, in my opinion, can be produced; such, for instance, as the "removal of refreshment rooms of Peers and Commons, near the libraries;" "the shifting of the centre line through the Houses of Lords and Commons, to equalize the size of the adjoining courts," and others that might be mentioned.

410. Will your Lordship have the kindness to state whether any correspondence has taken place since April 1839, with respect to remuneration for his services?—None whatever.

411. Viscount

411. Viscount *Duncan.*] Are not all the plans appertaining to works undertaken by the Government submitted to the Office of Woods and Forests?—All the plans of those works which are to be executed under the superintendence of the Office of Woods and Forests; there are many works which are executed under the superintendence of the Ordnance and other departments.

412. Is it not supposed that the head Commissioner, or some one under him in his department, is competent to examine, and does examine and determine upon the propriety of adopting those public works, before such plans are carried into execution?—That of course must depend very much upon the nature of the plans; I conceive that the plans now more immediately under consideration stand in a totally different position from any other plans which in my experience have been under the direction of the Office of Woods and Forests; the plans for the new Houses of Parliament having a special regard to those bodies which are supposed to be interested, namely, the Members of the two Houses, having been sanctioned by them in the first instance, and laid before them at subsequent periods, when alterations were suggested by the Committees of the two Houses, stand in a totally different position from other public buildings, with the details of which Parliament has in no instance interfered.

413. Have not certain alterations originated with your office?—No alterations have originated with my office.

414. In the first page of the Lords' Report of the present Session, it appears that the Committee reported that departures took place from the original plans approved of by the Committees of the two Houses of Parliament, and ordered to be carried into execution, under the direction of the Boards of Treasury and Works, which alterations were made by Mr. Barry without any authority from either of those Boards. It appears in Answer 263 in the Lords' Report, and in Answer 119 in the Minutes of the present Committee, that Mr. Barry communicated only with your office. Will your Lordship have the kindness to inform the Committee what control was exercised by you over Mr. Barry during the progress of the execution of the building of the Houses of Parliament during the period alluded to, and whether any reports from time to time were received by you from Mr. Barry or from some other person attached to your office, as to the general execution and structure of the building?—I think the first part of that question, as to what control has been exercised by the Office of Woods over Mr. Barry in the progress of the building of the New Houses of Parliament, has been already answered by me in the course of this examination; but if it has not with sufficient clearness, I will state again that the control has extended no further than to secure the intentions and directions of the Committees of the two Houses of Parliament being carried into effect, and to take care that no expense which had not already been sanctioned by those Committees, or by the Treasury, was incurred in the course of the erection of those buildings. With regard to that part of the question which refers to any report of Mr. Barry, or of some other person attached to the Office of Woods, if that is meant to imply that Mr. Barry is attached to the Office of Woods, I would beg to state that he is not; but, making that exception to the question, I would state that Mr. Barry has made no periodical report, but has reported whenever alterations have been suggested by which additional expense would be incurred, and where he conceived that he required authority for making those alterations, and he has also made reports when called upon by the Office of Woods for an explanation of any delay that was supposed to have taken place unnecessarily in the progress of the works, and of certain other occurrences which it is unnecessary to enumerate. With regard to reports from any other person, no person connected with the Office of Woods could make a report upon the subject, for no person connected with the Office of Woods has been considered by us to have any control over or right to interfere with the building of the Houses of Parliament. I may add to my answer, as explanatory of one portion of it, that in the course of last year, 12 or 13 months back, it did occur to the Office of Woods that the works were not proceeding so rapidly as they might; Mr. Barry was, in consequence of this, called upon for an explanation, and he made a report, at a considerable length, upon all the circumstances which led to the delay, which I was of opinion, and so were the other Commissioners of Woods, was perfectly satisfactory; we thought that he explained satisfactorily all the causes of that delay which had existed, but which were subsequently removed.

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415. Will your Lordship turn to page 3 of the Lords' Report for the present Session; in answer to Questions 99, 100, 101, 102, and 103, Mr. Barry states that he made many alterations in details of the plan that had been originally approved of; were you aware, at the time the alteration was made, that the Victoria Hall* as it existed in the original plan was destroyed in the new plan?—Several questions which were put to Mr. Barry by the Committee of the House of Lords having been referred to, as preliminary to my answer, I would in the first instance state, that I have reason to believe that those answers were given by Mr. Barry under the impression that he was questioned simply as to the mode of carrying out those alterations. Having stated thus much, I will observe, in answer to the question put to me, that I was not aware that Victoria Hall had been removed, nor practically do I think that it has been; undoubtedly the locality of it has been somewhat altered, and its dimensions changed, but I still conceive that the general features of the plan are not greatly or materially altered; and I will state that with reference to that, as well as other alterations which have taken place, I unquestionably was personally cognizant of them from verbal communications with Mr. Barry; but I may be taken not to have official cognizance of them, no report having been made by Mr. Barry or required by me; I do not conceive those verbal communications to have been made to me in my official character, but that being in the constant habit of conversing with Mr. Barry on this and other matters of business, I have necessarily been aware frequently of what was going on without an official report being made, and without considering that any official interference on my part was either desired or desirable.

* Lord Duncan alluded to the room marked No. 12 on Plan 1836, called the King's Entrance Hall or Vestibule.

416. Were you aware that the grand staircase, as laid down in the original plan, was done away with?—I am perfectly aware that the grand staircase has been altered.

417. The original staircase stood where the Victoria Gallery will now stand?—It appears to me to be almost unnecessary to pursue this criticism as to any particular part of the plan, inasmuch as I state distinctly and at once, that I neither did, nor conceive I ought, to have exercised any official cognizance or control over those alterations in architectural detail which have not entailed any additional expense on the public. If Mr. Barry conceived that a different locality for the staircase would improve the general character of the building, or suit such alterations as he has been ordered to effect in the different parts of the building, I have not interfered; and I believe that answer will equally refer to any other alterations in any portion of the building.

418. You were not aware at the time of those alterations taking place, that they were taking place?—I am really unable to state whether I may not have been aware, in the course of my conversations with Mr. Barry, or in the course of the frequent visits I have made to the Houses of Parliament with Mr. Barry; but by official reports I have not been made acquainted with them.

419. Were you aware that the gallery leading to the robing-room, across the King's Corridor, as laid down in the original plan, was not to be formed in the new plan; that the robing-room, situated as it was in the old House of Lords, and in Mr. Barry's plan, had been removed 130 feet from the throne by the new plan; that the gallery leading to that robing-room had been raised 30 feet higher than it was originally intended in the old plan; that the corridor on each side of that gallery had been removed; that the pillar in the centre of the Victoria Tower had been removed; that the state carriage was to pass through a tunnel nearly 150 feet in length, without any light save that from the two extremities, and was to pass through two narrow gateways at the east end of the Victoria Tower; and were you aware that the longitudinal axis of the building had been shifted, and extensive alterations had been made with regard to the site of the refreshment rooms?—The same answer as I have made to other questions will apply equally to those; but at the same time, I may be allowed to say that I cannot quite concur in the full propriety of the statements which are conveyed by these questions, or the architectural criticism which in some respect pervades them.

420. Were all plans, elevations, sections, and drawings of these and all other alterations that have taken place, whether they involved increased expense or not, lodged in your office and submitted to your approval previously to such alterations being put into execution by Mr. Barry?—No such plans, as I before stated, have been lodged.

421. In answer 159, in the Minutes of the present Committee, Mr. Barry stated to this Committee that various alterations had been made in the exterior decorations

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rations of the building, which, as they did not involve additional expense, had not been submitted to any one for approval; your Lordship is aware that various objections have been made to such alterations, on the score of overloading the building with decoration, heraldry, &c. Ought not, in your opinion, plans of those exterior decorations to have been submitted by Mr. Barry to the Woods and Forests previously to their being carried into execution?—I am not of opinion that any such plans should have been submitted, nor am I aware that any objections have been made to the style of decorations, as overloading the building; on the contrary, I am aware that such criticisms could not have been made, and for this simple reason, that no drawings of a sufficiently definite and detailed character have ever been made of the architectural elevation of the building, which could have enabled parties so to criticise it: the alterations which have been made in the embellishment of the building are in portions of minute detail and ornament, of which no drawings have ever been laid either before a Committee of the House of Commons or any other parties.

422. If your Lordship will turn to Answer 22 of the present Minutes, you will find that Mr. Barry stated to this Committee that he has been in the habit generally of submitting all estimates of alterations, involving an increase of expense, to the Woods and Forests, previously to their being carried into execution; were plans of those alterations submitted to your office at the same time with those estimates, and were you in the habit of expressing your opinion with regard to those alterations, with reference merely to the expense, or with respect generally to the architectural features of those plans?—I believe that question has already been more than once answered by me, that no such plans have been called for or deposited, and that I never have presumed to express any opinion as to the architectural merits or demerits of those plans.

423. In a written document put in and read, in the Lords' Report, following Answer 131, Mr. Barry states, "Whenever I have been required by the Government to make any addition or alteration in the building, I have never been called upon to deliver any plan to show in what manner I proposed to effect it." In Answers 184 and 186, 261 and 264, of the same Report, Mr. Barry states that he was never called on to produce any plan previous to carrying his intended alteration into execution. In case, as a private individual, your Lordship had ordered your architect to make certain alterations, involving additional accommodation, in his original plan, would you not have thought it necessary to ask the question, whether any further alterations of the original accommodation were consequent on such alteration as you had last ordered?—That question assumes a similarity between my position as Chief Commissioner of Woods and a private individual, which I certainly do not conceive in any respect to exist. I conceive that if I had been a private individual, employing an architect for the construction of my own private residence, I should have been at perfect liberty to exercise any criticism, however unjust, and to have pleased my own whims and fancies, however absurd, and to have controlled my architect, however good, in any manner I might think fit; but in the case of my performance of my public duties, as superintending the execution of a great national work, I should have considered myself greatly departing from my duties had I interfered in any such way. Again, if I had been employing an architect in the construction of my private residence, I should have a right to fool away as much of my money as I thought fit; but in the case of a public building, I consider myself acting, to a certain degree, as guardian of the public purse, and to have no right to sanction any expenditure, either for the gratification of any pride, or the indulging of any fancy I might entertain, as to the proper and efficient construction of the building.

424. Supposing you had been informed by your clerk of the works during the progress of the building that some variations of consequence had been made by the architect in the details of the building as laid down in his original plan; suppose, for instance, you had found that it was intended to shift the refreshment rooms 138 feet from their original station, and suppose you had found that your dressing-room was intended to be placed by the new design 130 feet from where it was placed in the original plan, and supposing you found that a hall 57 feet by 57, which you had approved of in the original design, was intended to be suppressed in the new building, and your grand staircase reduced from 34 to 16 feet, should you have considered those as mere alterations of detail, or would you have considered them to be alterations of such importance as to warrant your calling upon your architect to explain them in a new plan previously to carrying such

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alterations into effect?—I conceive that that is a series of questions, the meaning and spirit of which are sufficiently obvious, but which I can only answer as I answered the preceding, by stating, that I conceive the position of a private gentleman with reference to his own house, and the position of an officer of Government with reference to a national building, to be so dissimilar, that it is impossible to compare them or to guide one's conduct by one case with reference to the other; but I must add to that answer, that my opinion is, that it would tend neither to the advantage of the building nor to the public service, that either any Commissioner of Woods, or I will go further, any Member of either House of Parliament, who conceives himself to be as good an architect as Mr. Barry, should interfere in these matters in details of taste. I am quite sure that it cannot tend eventually to the good of the building. It is possible that a better architect than Mr. Barry may be found, but Mr. Barry has been employed by the Legislature itself, he having been appointed by the Committees of the two Houses, and I hope that no Committee of the House of Commons will sanction any interference by any person of the kind which it is implied by these questions ought to have been exercised by me.

425. Might not the alterations consequent on the alterations you had ordered your architect to make, have been of such an extent as to have some weight in your mind as to the mode in which such alterations, or any future alterations, should be carried into effect, for fear of interfering too much with your architect's original plan?—That question can only be put in utter ignorance of the circumstances under which the alterations were ordered; besides that, it is again supposing the two positions of Commissioner of Woods and a private individual to be the same. The alterations were ordered by Committees of the Houses of Parliament, and it was the duty of the Commissioners to see those alterations carried into effect, and if such alterations were consequent upon the alterations ordered by Committees of the Houses of Parliament, it was no business of ours to exercise a control over the decisions of the Committees of Parliament, but to allow those alterations to be carried out, simply taking care that the estimates should not be exceeded.

426. When your Lordship made application to Mr. Barry for further accommodation, involving additional expense, might it not have been worth while for you to have required Mr. Barry to furnish you with several plans for your selection of the mode of carrying such additions into effect?—No application was ever made by the Commissioners of Woods and Forests from themselves for additional accommodation, though such demands have always passed through the Commissioners of Woods and Forests, except when they have come direct from Committees of the House of Commons, but such requests have never originated with the Office of Woods.

427. When your Lordship was first informed of Mr. Barry's alterations in detail, which he says did not involve any additional expense, might it have been advisable for you to request Mr. Barry to furnish, at once, for your selection, several plans and modes for carrying such alterations contemplated into effect?—That would have entailed what I have already so often repudiated, the notion that I was to exercise a control of architectural taste and design over the architect who is selected to carry this national building into execution.

428. Could not you have easily procured, from some gentleman connected with your office, able assistance in case several plans of projected alterations had been forwarded for your selection, previously to any plan being carried into execution by Mr. Barry?—I certainly could not have obtained such an opinion from any person connected with the office; if such opinion had been considered requisite or desirable, I must have obtained it from some other architect, and I cannot conceive, that even admitting, for the sake of argument, that Mr. Barry was the worst architect to be found in London, it could contribute to efficiency or economy that Mr. Barry's plans should be controlled or supervised by some other architect, either professional or amateur.

429. Earl of *Shelburne.*] Was your Lordship ever called upon by virtue of your office to give an opinion as to the efficiency of the alterations proposed?—I do not conceive, that in carrying this building to completion, such interference would be either desirable, or in fact possible; it would suppose a superiority on my part in architectural taste and knowledge to Mr. Barry; and even if that had existed, Mr. Barry being the person to carry this building to completion, he is the person,

person, in my opinion, on whom the responsibility of these designs ought to rest.

430. Viscount *Duncan.*] In the Lords' Report, in question 179, Mr. Barry is asked, "It appears to be highly desirable that the works of the Victoria Gallery should be stopped till the Committee has decided upon the plan?" to which he says, "I have the pleasure to state that I have anticipated your Lordship's wishes in that respect by stopping that portion of the work; but it is right that I should at the same time state that I have done so at considerable inconvenience to the contractors." If your Lordship will turn to the contract in answer to 187 of the same Report, it appears that the Woods and Forests are a party to the contract; were you officially consulted by Mr. Barry previously to his taking upon himself the ordering of the stopping of the works. In the minutes of the present Committee, by questions 177, 178, and 179, you appear yourself to say that such an act on the part of Mr. Barry was one of questionable propriety: how soon after the stoppage of the works took place, was that fact officially reported to you; have you any objection to produce any correspondence on the subject, in order to prove that the instant such an important proceeding as the stoppage of the works took place, the Woods and Forests were officially acquainted by some one with the fact?—The question put being twofold, I consider that the latter part of the question now proposed to me is a sufficient answer to the first part of it. With reference to the question in detail, I may state, that no such report was made to me by Mr. Barry in writing, until a few days ago, but that Mr. Barry did communicate to me verbally on the following day on which he stopped the works, the course he had taken, and explained to me the extreme difficulty which he felt in consequence of the way in which he had been questioned by the Members of the Committee of the House of Lords, and the suggestions which had been made to him, with reference to the building, and the extremely painful and awkward position in which he felt himself placed. It was my opinion, that in order to meet any intimation of objections on the part of certain Members of the Committee of the House of Lords, Mr. Barry had better stop the works, and make no official report upon it at the moment, because if such a report had been officially made to the Office of Woods we should probably have felt it our duty, though a very painful one, to order Mr. Barry to proceed with the works, and not to sanction a delay which must either cause great loss to the contractors, or give them a fair claim for compensation from the Treasury. I may add, that the stoppage of the works, and this interference, is in fact a practical proof of the inconvenience to which I have more than once adverted.

431. It appears that the following alterations, entailing expense, have taken place since the original estimate of 707,104 *l.* was made: viz., extra foundations of Victoria and other Towers, 35,063 *l.* 3 *s.* 1 *d.*; excess of cost of Balsover stone, 22,000 *l.*; for rendering the building fire-proof, 21,000 *l.*; law courts, 5,000 *l.*; for warming and ventilating the building, including the cost of the proposed Central Tower, 65,000 *l.*; librarian's official residence, 1,250 *l.*; clerk's official residence, 2,000 *l.*; river wall (not included in the original estimate), 55,902 *l.* 3 *s.* 2 *d.*; purchase of premises in Abingdon-street, and various miscellaneous expenses, 90,605 *l.* 6 *s.* 6 *d.*; altogether making a total of 304,820 *l.* 12 *s.* 9 *d.*; which, if you add the original estimate of 707,104 *l.*, makes the present estimate, 1,016,924 *l.* 12 *s.* 9 *d.* In Answer 55 of the Minutes of the present Committee, Mr. Barry says, "There are various alterations which I have now under consideration, by order of the Woods and Forests, which will undoubtedly create an extra cost;" and again, in Answer 61, Mr. Barry says, "I think the Committee will see that it is utterly impossible for me to give any answer upon that subject," namely, the whole amount of charge to the public when the entire building as contemplated is completed, "because I am constantly receiving orders for fresh accommodation, which involve extra cost, and which orders may be continued even to the completion of the building, and will of course materially affect the ultimate cost of it; I am unable therefore to guess at what the ultimate cost of the building will be." Does your Lordship consider the Office of Woods and Forests entitled, on their own responsibility, and at their own discretion, to sanction all further extra expenses incurred in carrying on the building?—Certainly not; and the course that has been pursued throughout, and the practice which I have several times alluded to, are utterly at variance with any such supposition, even if the practice of public Boards were not sufficiently well known to obviate the possibility of any such power being supposed to be exercised by the Office of Woods and Forests. No new works

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have been suggested by the Office of Woods and Forests; they are referred to the Office of Woods and Forests to be reported on, and are reported on, to the Treasury; as to the details of expense, they require the sanction of the Treasury.

432. Do you contemplate that 60,000 *l.* will finish the Central Tower?—Not having been myself bred up an architect, and not pretending to have obtained, as an amateur, superior knowledge to Mr. Barry, I should recommend that that question should be put to him.

433. Mr. Barry says he has been in the habit of submitting all estimates involving extra expense to your department; it appears that Mr. Barry's estimate for the river wall was 40,000 *l.* to 44,000 *l.*, whereas the cost of completing it has been 55,902 *l.* 3 *s.* 2 *d.*, involving a difference of upwards of 11,000 *l.* between the original estimate and the actual cost in this one estimate alone; will your Lordship have the kindness to state who has been in the habit of checking Mr. Barry's estimates previously to your sanctioning their being carried into execution?—I presume again that question is put in ignorance of the practice prevailing in the department, not only in regard to this, but to all public works. Mr. Barry, in the case at present under consideration, divides his estimate for the whole building into separate contracts. Previously to each contract being put up for tender, Mr. Barry gives in to the Office of Woods an estimate of that portion of the building, and we then give out for tenders, plans and specifications to various builders, and the lowest tender is accepted; that therefore is the check which is exercised upon Mr. Barry's estimates, and no other check can be required, nor can, I apprehend, so efficient or satisfactory a one be provided.

434. When did Mr. Barry first officially intimate to the Woods and Forests that there was no chance of the building being completed within the time originally specified; namely, six years, or the two Houses in two years. It is stated in the Report of the Lords in the last Session, "That the architect be directed so to conduct his operations as to secure the occupation of the new House of Lords, with temporary fittings, at the commencement of the session of 1844; that in case the architect, in the progress of the work of the new House of Lords, shall find that more time will be required, in consequence of any apprehension of injurious consequences to the building, he shall report the same to the Commissioners of Her Majesty's Woods and Forests, in order that such report may be communicated to this House in due time"?—No such report has been made, and for this reason, I apprehend, that no Committee of either House could issue directions to Mr. Barry in reference to expediting or retarding any portion of the work, especially as such directions might entail additional expense. The course, if the Committee of the House of Lords intended this Report to be carried into effect, I apprehend, would have been to have sent their Report to the Treasury, with an expression of their wishes and opinions, in which case, if the Treasury had sanctioned it, the Commissioners of Woods would have issued directions on that subject to the architect. Such directions from the Treasury were never received at the Office of Woods, consequently such directions were never issued to Mr. Barry, and it follows that no such report by Mr. Barry was ever received.

435. It appears that a correspondence took place between Mr. Barry and the Woods and Forests on the subject of remuneration to the architect, and that Lord Duncannon offered, and Mr. Barry accepted, a sum of 25,000 *l.* as the sum sufficient for his remuneration on the completion of the building; at that time the estimate amounted to 707,000 *l.*; since that period has any further correspondence taken place between yourself and Mr. Barry on the subject of remuneration to the architect?—I have already stated, that no communication, verbal or in writing, has taken place on that subject between Mr. Barry and myself or the Office of Woods and Forests since the period named. I think it right however to state, in answer to the preliminary part of that question, that it will appear from the documents which have been laid by me on the table of the House of Commons, that the remuneration was accepted by Mr. Barry under protest.

436. Will your Lordship have the goodness to inform the Committee when you first submitted the plan of the interior of the House of Commons to the Speaker and Sir William Gosset?—That plan was never submitted by me, it was submitted by Mr. Barry.

437. In Answers 245, 251, 253, and 260 of the Report of the Committee in 1836, the expense of the foundations is there estimated at 12,486 *l.* plus 21,748 *l.*, equal to 34,234 *l.*; in Question 269 of the Evidence before this Committee, it

appears

appears that the original estimates have not been exceeded; then in Answer 31 of the same Evidence it appears, that for extra foundations, in consequence of quicksands and springs, and for strengthening the foundations of the Victoria and other Towers, 35,063 *l.* 3 *s.* 1 *d.* have been incurred; do not you think that the estimates for the foundations of the Victoria and other Towers appear considerable compared with the original estimate for the foundations of the whole building?—I should state, that I conceive that to be a professional opinion, and one which I am not very competent to answer; at the same time, having visited the spot at the time, and seen the enormous works that were requisite to make a sure foundation, and the quicksands that existed in this spot, I think in all probability the works could not have been effected at a less cost.

438. Sir *R. H. Inglis.*] Your Lordship has stated that you regard the stoppage of the works of the Victoria Gallery and the approach to it as a measure of questionable propriety; admitting it to be of questionable propriety, was it not at any rate, on the part of the architect, a measure adopted by him entirely in deference to suggestions made by the Members of the House of Lords in their examination of him?—Entirely so.

439. If, therefore, the propriety be questionable, the blame, such as it is, must at any rate be equally divided between those who suggested it and him who acted upon the suggestion?—I am not aware that the House of Lords actually suggested the stoppage of the works; but one or two Members of the Committee raised such strong objections to the mode in which Mr. Barry was carrying out his then plans, and objected so much to arrangements then in progress, that he conceived the best course would be to incur the responsibility of stopping the works. I should therefore hardly say that blame was attached to the Committee of the House of Lords, the Committee not having ordered the suspension of the works; it was merely the suggestion of individual Members of the Committee.

440. Your Lordship has referred, in your last answer, to the Committee not having recommended anything?—They recommended nothing.

441. It was wholly in deference to individual Peers?—Yes.

442. Does your Lordship think that may be regarded as a matter of much, if any, blame to an architect employed under such circumstances, and examined under such circumstances by such a body?—I think that the peculiar circumstances of the case exonerates the architect from that blame which, under other circumstances, certainly would have attached to him.

443. The works are now ordered to be resumed?—They are.

444. It being clear, from the course of the present proceeding, that the Committee of the House of Lords adopted no such suggestion, and that the House of Lords as a body have adopted no such suggestion?—I should say that the works have been recommenced, and certain alterations made which were suggested in the course of the examination by Members of the Committee of the House of Lords, although I believe all those suggestions have not been adopted.

445. In all your answers to the questions recently addressed to you as to the nature and degree of the responsibility exercised by the Commissioners of Woods and Forests over Mr. Barry, as the architect employed under the sanction, more than implied, of Committees of the two Houses of Parliament, does your Lordship wish this Committee to understand, that you have not officially or individually interfered in questions of taste with the architect?—Most unquestionably; I have carefully abstained from doing so, under the idea that I was thereby best fulfilling my duty and consulting the interests of the public.

445*. You have considered that Mr. Barry's plan was adopted by the Royal Commissioners, was then sanctioned by the Resolutions of the Committees of both Houses of Parliament, and that the House of Commons has successively passed Resolutions, making grants to carry out those plans, and you have, on a general view of those considerations, regarded your duty as one wholly ministerial, namely, to superintend the conduct and execution of such contracts, leaving the plan of the work generally unaltered, and requiring only where the expense of such works would be increased, an estimate of such increased expense to be laid before you and the Commissioners?—That has been my view and opinion, as I consider that the circumstances under which this building originated, and the various transactions which have attended its progress, have taken it completely out of the category of other public works over which I have considered myself and the Office of Woods justified in exercising a different sort of control to that which is applied to these works.

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446. Mr. *B. Wall.*] Does your Lordship's answer with regard to matters of taste equally apply to matters of arrangement?—It equally applies to matters of arrangement, where no expense is incurred by the substitution of one locality of an apartment for another.

447. Sir *R. H. Inglis.*] Will your Lordship cast your eye upon this plan, which is signed and sealed by Lord Duncannon, bearing date February 10th, 1841, headed, "For the Library of the House of Commons," and looking at the space represented to the south of the House of Lords as the Queen's entrance gallery, separated from the House of Lords by the robing-room; will you state whether, substantially, that gallery may not be considered as placed on the spot now represented as the Victoria Gallery in the plans of the present year?—Looking to the alteration of the axis in the present building, and to the different dimensions of the robing-room, it is, as far as possible, in the same situation as that it then occupied.

* Lord Duncan alluded to the room marked No. 12 in plan 1836, called the King's Entrance Hall, or Vestibule.

448. You would not consider that the phrase, "the destruction of the Victoria* Gallery," strictly applies to the alteration which has been made?—I should say decidedly not.

449. With respect to the increase of expense, both in the river front and in the foundation of the Victoria Tower, does your Lordship consider that any architect, or any engineer, can be so responsible for substructions under water, in a soil not before tried, as in a superstructure in ordinary soil?—I think the best answer I can give to that question is, that, in conjunction with Mr. Barry, one of the most eminent civil engineers of the day was employed in the construction of that river wall, as well as preparing the estimate for it; and as a consequence it follows, that that eminent engineer, Mr. Walker, was as much deceived as Mr. Barry in the ultimate result of the expense of that undertaking.

450. Are you aware of the expense incurred in the foundation of the northern pier of Waterloo Bridge, utterly unexpected by the parties?—I am.

451–2. Your general experience being that in such works the most able judges may be deceived in such matters, which cannot come under the tests of ordinary earth-work?—That, again, I must say is rather a professional question, which I am only so far enabled to answer as that, so far as my experience has gone, I believe no civil engineer would venture to give more than a proximate estimate for a work in which so many contingencies are involved.

Jovis, 20° *die Junii*, 1844.

MEMBERS PRESENT.

Sir George Clerk.	Mr. Pendarves.
Viscount Duncan.	Lord Granville Somerset.
Mr. Greene.	Lord Harry Vane.
The Earl of Lincoln.	Mr. Baring Wall.
Lord Palmerston.	

THE EARL OF LINCOLN, IN THE CHAIR.

The Earl of *Bessborough* (Lord *Ponsonby*), attending by permission of the House of Lords; Examined.

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453. *Chairman.*] YOUR Lordship was Chief Commissioner of Woods at the time the plans for the erection of the Houses of Parliament were agreed on, were you not?—I was.

454. That was in the year 1836?—It was.

455. Mr. *B. Wall.*] How long did your Lordship hold the office of First Commissioner of Woods and Forests?—To September 1841.

456. Were any alterations made in the amended plan of 1841, which bears your Lordship's signature together with Mr. Barry's, up to the period of your quitting office?—When I put my name to that plan Mr. Barry informed me that it was the same as the plan of 1836.

457. When alterations were proposed, during the time you held the office of First

First Commissioner of Woods and Forests, was it the habit of that department to ask for plans from the architect?—I think that it has been the habit as long as I have known anything of the office to ask for a report in writing from all the architects employed by the department for any alterations made in any plan. I cannot say that it has been the custom always to have a plan.

458. Does not your Lordship think that it would be advisable to have plans of all intended alterations submitted to the Commissioners of Woods and Forests, and also that a half-yearly report should be submitted for the information of that Board?—I certainly think, from what I have seen in the Committees of the House of Lords within the last year or two, that Mr. Barry should be called upon to report the alterations he makes from the plans to the Commissioners of Woods and Forests.

459. Do you not think it desirable that any alterations which are adopted should be distinctly marked upon the plans suspended in the libraries of the two Houses of Parliament?—Certainly; for the same reasons that those plans were deposited, I think that the alterations in them should be noted.

460. The first deviation from the original plan was the providing a house for the Serjeant-at-Arms?—The original plan was the plan signed in the presence of the King; but the second plan was altered by the Committees of the two Houses of Parliament.

461. By the second plan your Lordship also means a plan in the year 1836?—Yes.

462. The first deviation from that amended plan of 1836 was the providing a house for the Serjeant-at-Arms?—It was.

463. Can your Lordship state when it was that alteration took place?—That deviation I think took place during the sitting of that Committee of the two Houses which altered the plan in 1836. I can speak pretty positively to that, from a conversation I had with Mr. Hume; he came to me from the Committee, in consequence of my having objected to make any alteration in the plan as it was deposited in the office; I think it must have been at that time.

464. Is it not your Lordship's impression that the Treasury consented reluctantly to such alteration, and were not the contracts drawn so as to prevent any alteration taking place without the sanction of the Treasury, or the Commissioners of Woods and Forests?—Undoubtedly; I have no doubt whatever upon that; I objected to it, and it was in consequence very much of Sir Benjamin Stephenson, who had charge of the work, saying to me, that if we once consented to alterations in a work of that magnitude, all sorts of difficulties would occur, that I objected. I recollect Mr. Hume coming to me and stating that it was absolutely necessary that the Serjeant-at-Arms, who had charge of the House, and had so great a responsibility with respect to so large a building, should have apartments there.

465. Lord *G. Somerset.*] In what character did Mr. Hume make that observation?—Merely as a Member of the Committee.

466. What influence upon the conduct and proceedings of the department had that observation of Mr. Hume; did you concede to his representation?—I assented to it with very great reluctance; I got the consent of the Treasury, but they objected very much to it.

467. Did Mr. Hume state that that was the general opinion of the Committee, or his own opinion?—The general opinion.

468. Mr. Hume was not chairman of the Committee, was he?—No, he was not; I think he stated that it was the opinion of the majority of the Committee.

469. Mr. *B. Wall.*] Were the contracts so drawn as to prevent any alteration without the sanction of the Treasury or the Commissioners of Woods and Forests?—Yes, I am quite sure that they were; I perfectly recollect that Sir Benjamin Stephenson prepared for me what he thought would be proper instructions to be given to the architect, though they were never given to the architect, I believe, because at that time it was thought that the architect was to be under the charge of the Commissioners who had approved of the plan No. 64.

470. Lord *G. Somerset.*] By plan 64, your Lordship means the plan selected by the Commissioners, who were appointed to select the most suitable plan?—Yes.

471. Plan No. 64 was that which gained the largest prize?—Yes.

472. It was supposed that the architect was to be under the direction of those Commissioners, and not under the direction of the Commissioners of Woods and Forests?

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Forests?—Yes; in consequence of that Sir Benjamin Stephenson did not proceed with those instructions to the architect, because he thought that in framing the contract with whoever might be the contractor for the work the better way would be to confine Mr. Barry by those contracts, and I know that he was confined as far as it was possible; I am sure of that, for I know that Mr. Barry had conversations with the solicitors of the Board, and that he endeavoured to prevail upon them to leave out certain words which he thought too stringent.

473. Mr. *B. Wall.*] Does your Lordship's answer refer only to alterations entailing expense?—No, certainly; all alterations. What I mean by that is, that I am quite sure I stated to Mr. Barry that he was to do no one act without an authority from the Board, and that if any alteration became necessary, he was to report it. Perhaps as I have heard Mr. Barry's answer in another place, I had better make some observation upon it, because I am quite sure that Mr. Barry was under a misapprehension. I do not intend to convey the impression that he acted in a manner which he considered contrary to my directions. He considers that, where I gave him authority in writing to make an alteration, such as the providing a house for the Serjeant-at-Arms of the House of Commons, I gave him what he calls a consequential authority to make any alteration he thought fit, by way of providing a place for that house. I certainly never was under that impression; I meant that in any alteration he had made or was making at that time, he should report it.

474. Was any estimate or detail made out of the plan of 1841, similar to that made out in respect of the plan of 1836?—No, certainly not; because he told me it was the same with the plan of 1836, which I wished him to deposit in the libraries of the two Houses of Parliament.

475. *Chairman.*] Your Lordship has been asked the question whether the contracts were not drawn in such a form as to prevent any alteration in them. You have replied that certainly such was the case; it would not, however, of course follow that, because it was stated in the contracts that no alteration should be made, the architect was precluded from any alteration of his general plans, would it?—I think that he was precluded from making any alterations in his plans without communicating them to the Commissioners.

476. Do you not apprehend that the clause in the contract applies simply to that portion of the work which was then contracted for with Messrs. Grissell and Peto?—Certainly.

477. That contract, No. 3, was so framed as to preclude any alteration in that contract, except with the sanction of the Lords of the Treasury, the Commissioners of Woods and Forests, and the architect. That clause in the contract could not, of course, be held to apply to any alterations in any other parts of the building which had not then been contracted for?—I think it would, if the same contract was continued; what I mean to say is, that if new works were to be done, they would be subject to exactly the same contract, and controlled by the words in the original contract, No. 3, with reference to the sanction of the Commissioners.

478. You mean of course from the moment that that subsequent contract was taken?—Yes, certainly.

479. But that would not, in your opinion, preclude any alteration in any portion of the building prior to the contract being taken; that is to say, that clause in contract No. 3 did not apply as to alterations in other parts of the building until a new contract was made?—I should have considered that Messrs. Grissell and Peto's contract regulated all the work they were performing until some new contract was taken.

480. The contract of course is intended to bind the contractors and other parties, so far as that contract is concerned, but no further?—It certainly was intended to bind the contractors and the architect, and it is clear that the architect so considered it, because he endeavoured to get those words altered.

481. So far as that one contract is concerned?—Certainly as far as that one contract is concerned, but in my opinion that contract is going on now. I have not heard of any new contract having been made.

482. Viscount *Duncan.*] Did Mr. Barry mention any alteration from the plan of 1836, when he asked your Lordship to sign the plan of 1841?—No; on the contrary, he told me that it was the same with the plan deposited.

483. On referring to the Reports of the House of Commons, vol. 11, I find in

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page 571 that your Lordship thought it necessary to get the sanction of Parliament to the plan of 1836?—Yes.

484. You did not think it necessary to get the sanction of Parliament to the plan of 1841, believing it to be the same?—Certainly.

485. Lord *G. Somerset.*] How soon was it determined that the Commissioners who selected Mr. Barry's plan should cease to have any control over Mr. Barry in the execution of the works?—As far as I can recollect, but I cannot speak positively upon that subject, one of the persons named in the commission had declined to attend, and one or two of the other Commissioners were leaving London, and I think that they declined altogether themselves to be responsible for what was going on.

486. Can your Lordship state the date of that?—It must have been after I took the plan No. 64 to the King, and between that time and the time when the Committee of the House of Commons altered the plan which is now referred to.

487. Can you state when the King saw the plan No. 64?—I cannot state the date, but I recollect that I took the plan, with Mr. Barry's model, to His Majesty at St. James's.

488. Would it be in 1836?—Yes; it was very soon after the plan was approved of by the Commissioners.

489. Before the conjoint Committee of the two Houses?—Yes.

490. Was any money expended on the works, under the direction of Mr. Barry, at any time during which the Commissioners of Woods and Forests did not suppose they had a control over the persons concerned?—I should think certainly not.

491. During the time it was in doubt who was to superintend the work, no money was expended?—I apprehend not.

492. Consequently, in all which has been done, Mr. Barry has acted under the official superintendence of the Commissioners of Woods and Forests?—I have always thought so.

493. To what extent do you conceive Mr. Barry bound to make the Commissioners of Woods and Forests acquainted with his proceedings?—I always considered Mr. Barry responsible to the Commissioners in the same way as I have always considered Sir Jeffrey Wyattville, Sir Robert Smirke, Mr. Blore, Mr. Decimus Burton, Mr. Ashton, and Mr. Wilkins, responsible, with the exception, I must add, in respect of Sir Jeffrey Wyattville, of that portion of the work at Windsor which he did under the charge of a Parliamentary Commission: I say so, because I know that that was the practice of the office during the time of my predecessors, my first occupation of the office, during Lord Granville Somerset's, during Sir John Hobhouse's, and during my second occupation of the office.

494. With regard to the actual supervision, did that extend to a knowledge how far the work was proceeding with sufficient celerity, or how far the architect was dilatory in his proceedings?—Certainly.

495. A good deal of evidence has been taken in the Committee of the House of Lords as to the supposed delay in the erection of the chamber for the use of the House of Lords. Mr. Barry stated to that Committee that it was quite impossible to accelerate the works beyond a certain pace; but it did not appear in the examinations, so far as I could perceive, how far he had or had not used the utmost practicable dispatch up to the period of the sitting of that Committee. Do you recollect having had any communication with Mr. Barry, at any time, as to his completing the works within the time at first anticipated?—I do. I was asked the question in the House of Lords by some Lord, I forget by whom, and I requested I might be allowed to give an answer another day, that I might communicate with Mr. Barry; and Mr. Barry then authorized me to say that the Houses should be ready within two years from that time.

496. Does your Lordship recollect the date of that communication?—It was while I was in office; I am pretty sure it was in 1840.

497. Subsequently to the answer you then gave, on Mr. Barry's information, have you reason to suppose that Mr. Barry was dilatory, or do you believe that he made use of sufficient diligence in forwarding the works?—I thought he might have got on faster.

498. Did your Lordship ever in any degree remonstrate with Mr. Barry upon his slow progress previous to the time of the Committee of the House of Lords taking up the matter?—I have repeatedly spoken to Mr. Barry with respect to the particular part as to which I was asked the question in the House of Lords,

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and my impression is, that he at that time wished the two Houses to be finished together.

499. Will your Lordship state to the Committee your opinion whether, taking all matters into fair consideration, Mr. Barry has used due diligence in the erection of the buildings so far as he might have done?—I think in the first part of his work he was more anxious to get on with the river front than with that which I always considered he had engaged to do, namely, to finish the House of Lords, at all events, first.

500. If he had used the same diligence with regard to the actual chambers for the two Houses to sit in which he did with the river front, those two Houses might have been in a more advanced state than they now are?—Yes; but perhaps it is but just to Mr. Barry to observe that he repeatedly told me that he could not get on with the interior, because the quantity of stone which would be required would block up the central part where the chambers were to come, and that he could not get on faster with the chambers at that time.

501. That is, that he was obliged to build the river front first in order to get rid of the materials he had accumulated?—Yes.

502. Would there have been any difficulty, in your opinion, in his depositing the materials elsewhere, and getting on with the chambers for the Houses of Parliament?—I can only answer that question from the representations I received from other persons; but having taken some trouble to ascertain what was the case with respect to the Houses of Parliament, and having been once or twice asked the question in the House of Lords, my impression certainly was that he might have gone on with greater celerity.

503. Communications took place between you and Mr. Barry from the very commencement, you urging him to proceed with all reasonable diligence?—Certainly.

504. So far as your Lordship's recollection serves you, you were not entirely satisfied with his reasons for not making greater progress than he did?—I thought he might have got on faster; he had, however, a great check to his work at one time in consequence of the striking of all the men.

505. That lasted for some months?—For six months at least, I believe.

506. Did that strike to which you allude commence in the summer of 1841, and continue to pretty nearly the same period in the year 1842?—I think it did.

507. That excuses Mr. Barry only from the date of the summer of 1841; is your Lordship aware of any circumstance which justified his want of diligence previous to that?—I have always been surprised at his going on so slowly, because it is in my memory that he stated distinctly before the Committee of the two Houses of Parliament that he should complete the work in six years, and it was very much in reference to that that the calculations with respect to the remuneration he was to receive were made.

508. In spite of all your remonstrances, you could not get him to proceed faster than he did?—No; he has stated to me, as he did in his answers before the Committee, that there was nothing so bad for the work as its being proceeded with too rapidly.

509. Lord *Palmerston.*] You say that in your opinion he might have got on more rapidly with the rooms in which Parliament was to sit, if he had not been more anxious to get on with the river front; do you mean that he might have made the same progress with the two Houses as he has done with the river front, proceeding at the same time with the river front, or do you mean that he might have preferred the progress of the two Houses to the progress of the river front?—I conclude that his attention to the two Houses would have retarded the river front; that if he had completed the two Houses of Parliament the river front probably would have been delayed.

510. He could not have carried on the two portions of the work with the same rapidity as he has carried on the river front?—I am not a judge of that; but he has informed me that he had as many masons at work as could possibly get on well within the space, and he could not proceed faster.

511. A strong desire was expressed that the House of Lords should be first completed?—Yes; there was a distinct understanding when the old House of Lords was given up to the House of Commons, that the new House of Lords should be finished with as great celerity as possible.

512. Mr. Barry has stated when you remonstrated with him upon the slowness of his proceeding, that the contractors were employing as many masons as the

the space would allow to work, and that it was necessary that that portion of the work should be first proceeded with?—Yes; I have more than once expressed to Mr. Barry that I hoped he would get on as fast as possible, and that there should be no want of money; but he told me that he had as much money as he wished to have, for that he could not employ more men than he was employing.

513. Lord *H. Vane.*] Do you conceive there would have been great practical difficulty in constructing the Houses properly previous to the construction of the river front, inasmuch as there would be no area on which to place the materials for the erection of the river front?—That was the objection Mr. Barry always made to me, that he could not go on with the works, there being no area to place the stone.

514. *Chairman.*] In a previous part of your Lordship's evidence you stated that you would consider that the deposit of plans of any future alterations in the libraries of the two Houses would be desirable; do you not think the deposit of those plans would be an invitation to every individual Member of each House to criticise those plans, and to suggest alterations either to the architect or to the Office of Woods?—My answer was given with reference to the direction which has been given, in consequence of which plans have been deposited in the libraries of the two Houses of Parliament, and unless the alterations which are made are marked upon those plans, it appears to me that they would be of no use to any persons who wished to inspect them.

515. Would you not consider that a course which would be likely to lead to criticism and suggestion, inconvenient, and probably prejudicial to the eventual effect of the building, as well as far from economical with reference to expense?—My answer must refer to the wish I at first expressed, that there should be as little alteration as possible from the original plan.

516. You state that you are of opinion that if any future alterations are to be made, plans should be sent by Mr. Barry to the Office of Woods of such alterations; would your answer upon that point go to the extent of recommending that the Office of Woods should exercise any critical control over those plans, or would you merely suggest that as a check upon wanton alteration on the part of Mr. Barry?—I think that Mr. Barry being employed under the Office of Woods and Forests, he ought not to make any alteration without giving the Office of Woods the power of judging whether they will submit such an alteration to the Treasury. I always considered, and certainly I left the office under that impression, that he had made no alteration but such as he was authorized in writing to make.

517. Would you not deprecate any interference on the part of the Office of Woods to such an extent as would have the effect of removing the responsibility, which properly attaches to Mr. Barry, to the Office of Woods?—Certainly I would not remove the responsibility from him, but I should direct him to make a report to the office of any alteration he proposes.

518. But you would not consider it the duty of the Commissioners of Woods to exercise any critical or architectural control over Mr. Barry to the extent of altering or modifying the plans he might send in?—I think the Office of Woods should exercise the same control over him as they do over every other architect employed under the office.

519. Your Lordship has stated that the practice in the office always has been to exercise this control over architects, with the single exception of that portion of Windsor Castle which was built by Sir Jeffrey Wyattville, under the direction of the Parliamentary Commissioners; does not this building bear more affinity to that building than to any other hitherto under the control of the Commissioners of Woods, the plans for this building having been sanctioned by a Committee of both Houses of Parliament, and subsequent alterations suggested by them at subsequent periods?—Perhaps I may think so; but Parliament did not appoint controlling Commissioners in this case; in the other case they did distinctly.

520. The difference to which I would wish to draw your attention is this, that not only were the plans originally sanctioned by Committees of the Houses of Parliament, instead of being sanctioned by the Commissioners of Woods upon their responsibility, as is the case with most public buildings; but that subsequently Committees of both Houses have sat upon the subject, and have recommended various alterations to be made; for instance, the central tower for warming and ventilating, the addition of a residence for the Clerk of the House of Commons, and other alterations which might be enumerated: do you not

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conceive that those alterations having been suggested, and I may say ordered, by both Houses, take those buildings out of the usual category of public buildings, to the extent of not necessitating the same control by the Commissioners of Woods which has been exercised in the case of similar buildings?—I do not think so, because a very large portion of the work was actually recommended from the Office of Woods; that of the tower for warming and ventilating, for instance: I wrote a letter to the late Chancellor of the Exchequer, which was afterwards submitted to Parliament by the present Chancellor of the Exchequer, in reference to this alteration.

521. Lord *G. Somerset.*] With reference to the remuneration to Mr. Barry, your Lordship has stated that the period considered requisite for the completion of the buildings was one component in coming to the conclusion as to 25,000 *l.* being his amount of remuneration; do you think that his delay has been such as in any way to diminish his claim for further remuneration?—I have no doubt that when the joint Committee of the two Houses of Parliament expressed a wish that Mr. Barry should not be paid by a per-centage, and when, in consequence of some difficulty as to how it should be done, it was left to me to settle what remuneration should be given to him, one of their objects was that he should not receive a greater remuneration for any greater number of years.

522. On a consideration of the whole matter, you settled the sum of 25,000 *l.*?—Yes.

523. Certain additional buildings, the ventilating tower, and so on, were not in contemplation at that moment?—Certainly not.

524. Therefore, with regard to any time which Mr. Barry has had to dedicate to the new buildings, Mr. Barry's claim to remuneration is perfectly untouched by that arrangement?—Certainly.

525. Do you think, from your recollection of what passed when you held the office of First Commissioner, that Mr. Barry's delay has been such as to diminish his claim considerably to a further remuneration beyond the 25,000 *l.*?—I think he has no claim beyond the 25,000 *l.* for the work he has to complete under the plan approved of by the conjoint Committee of the two Houses of Parliament.

526. You would not recommend the giving him any remuneration beyond the 25,000 *l.* unless that remuneration is calculated for extra trouble occasioned by the alterations proposed subsequently to the original plan?—Yes, and which are duly authorized; I told Mr. Barry so myself. When I informed Mr. Barry that he was not to be paid by a per-centage under any circumstances, and that the sum had been fixed at 25,000 *l.*, he remonstrated, put in a protest; I told him that as long as I had anything to do with the office, or any influence with any one who might hold the office, he could not have that increased. Mr. Barry stated, that with respect to himself, he did not object to the money, but on the part of the profession he protested against not being paid in the usual way.

527. At the period of this communication upon the subject of the 25,000 *l.* was any reference made by you or by Mr. Barry to the probable length of time during which he would be employed?—No.

528. Mr. Barry stated in his letter, dated 22d April 1839, "I cannot, in justice to myself and the profession to which I belong, refrain from expressing most decidedly my opinion that the amount is very inadequate to the great labour and responsibility that will devolve upon me in the superintendence, direction, and completion of the intended edifice." What did you understand him to mean by that paragraph?—I understood that he meant, on the part of the profession, to say that the remuneration ought to be five per cent.

529. Did you understand that to be five per cent. on the outlay?—Yes.

530. *Chairman.*] The remuneration proposed to him of 25,000 *l.* being calculated in round numbers at three per cent. on the amount?—It was not calculated on the amount. I can positively say that it was not as a per-centage of any sort; that it was considered what would be a fair remuneration; that was considered by Sir Benjamin Stephenson, and, in accordance with his opinion, I recommended 25,000 *l.* to the Treasury.

531. Lord *G. Somerset.*] Sir Benjamin Stephenson had had great experience in the erection of public works?—He had, having been for several years Surveyor-general of Public Works.

532. *Chairman.*] The 25,000 *l.* appears to be at the rate of three per cent. on the estimate then sanctioned by Parliament?—That may be the case, but I promised the Committee that it should not be a per-centage.

533. Lord *G. Somerset.*] There appears to have been an interval of about two years from the year 1836, during which there was no distinct arrangement with Mr. Barry. The correspondence appears to have commenced in February 1838, and the last communication is dated in April 1839?—Yes.

534. That period having elapsed between the time of Mr. Barry's appointment to be architect and to have the general management of this building and the period at which a definite arrangement was made as to remuneration, can you state to the Committee whether, during that interval, Mr. Barry was led to suppose he would receive a remuneration at the rate of five per cent.?—Certainly not.

535. During the whole period he was working under protest, as far as your office was concerned?—Certainly.

536. Therefore, when the arrangement was made, he had no ground of complaint that he had been all that time under a delusion?—Certainly not.

537. Mr. Barry was aware throughout that a per-centage would not be the probable mode of estimating his remuneration?—Certainly; but he was not informed of the amount until the year 1838.

538. To what extent did the employment of Mr. Walker increase or lessen Mr. Barry's labour and responsibility?—My impression is that Mr. Barry to a certain degree superintended with Mr. Walker the coffer-dam, and I think that the remuneration of five per cent. was divided between Mr. Barry and Mr. Walker.

539. For whatever superintendence Mr. Barry did exercise and whatever labour he was called upon to contribute towards that work, he was separately remunerated?—I believe that was so.

540. If he was not separately remunerated for that, that would be a ground on which Mr. Barry might have a distinct claim?—Certainly.

541. If the expense of the coffer-dam was included in the 707,104*l.* then the 25,000*l.* would cover it, but if it was not it would be the subject of a separate remuneration?—Yes; my impression is that the amount was divided between him and Mr. Walker for that work.

542. Viscount *Duncan.*] When the estimate of 707,104*l.* was acted on, no other expenses were at that time contemplated?—Certainly not.

543. At what period were any other expenses contemplated?—The first time was when the Committee of the two Houses met.

544. When your Lordship quitted the office, in the year 1841, there were no further expenses contemplated?—That was all the extra work then contemplated, the price of the additional ground, and the houses authorized to be erected.

545. *Chairman.*] Several alterations and additions had been from time to time brought under the notice of Parliament, and sanctioned by them and by the Government?—Yes, sanctioned in writing.

546. Lord *G. Somerset.*] In reference to a former answer, will you state whether, when you speak of communication from Mr. Barry, you refer to communications in writing or verbal?—I mean communications with myself in writing. What I mean to say is, that before I left the office considerable expenses had been incurred beyond the estimate of 707,104*l.* which Mr. Barry was authorized in writing to make.

547. The effect of your evidence is, that Mr. Barry had no verbal authority from you; that whatever authority he had, must have been in writing?—Yes.

548. You do not conceive that he had any verbal authority for any alterations?—Certainly not.

549. If, in any casual conversation, you may have expressed an opinion on any point, you do not consider that that was authority sufficient for him to act upon?—No. I can state, from what has been the uniform custom of the office, that if on any point there has been a verbal communication with any architect respecting alterations, it has always been afterwards made the subject of a report in writing.

550. After a communication to ascertain what was right to be done, there has been an official form put upon it by a written communication?—Yes; and Mr. Barry had a great many of those, which he produced to the Committee of the House of Lords.

Jovis, 27° die Junii, 1844.

MEMBERS PRESENT.

Sir George Clerk.	Mr. Pendarves.
Viscount Duncan.	Lord Granville Somerset.
Mr. Estcourt.	Lord Harry Vane.
Mr. Greene.	Mr. Baring Wall.
Earl of Lincoln.	Mr. Warburton.
Visc ount Palmerston.	

THE EARL OF LINCOLN, IN THE CHAIR.

Thomas Vardon, Esq. called in; and Examined.

T. Vardon, Esq.
27 June 1844.

551. *Chairman.*] YOU are Librarian to the House of Commons?—I am.

552. You held that appointment at the time of the destruction of the late Houses of Parliament?—I did.

553. And have continued to do so ever since?—Yes.

554. Viscount *Duncan.*] Can you deliver in a list of the Parliamentary papers relative to the building of the New Houses of Parliament from the year 1836 to the present time, with copies of the various estimates and annual Reports?—Yes, the whole of the Reports are contained in this volume, and these are the estimates (*producing the same*); these are the votes of the Committee of Supply.

555. That book in your hand contains all the Reports of all Committees of the House of Commons that have sanctioned plans for rebuilding the Houses of Parliament up to the end of Session 1841?—Yes.

556. Do you know of any further Reports for the Session 1841 than those contained in that book?—No.

557. When was the plan of 1841 deposited in the library of the House of Commons?—On the 10th of February 1841; it was sent by the Commissioners of Woods and Forests to be kept for the information of the Members of the House.

558. It is signed and sealed by Lord Duncannon?—Yes, and by the architect.

559. Did Members inquire, when that plan was sent in, whether it was the same plan with that of 1836; and were you asked whether any further alterations were contemplated in that plan?—The Speaker inquired of me at the beginning of the Session of 1842, whether that plan which was sent in in 1841 was the plan of 1836, and if not, to what extent it was altered. I could not answer that question; but when some of the Members who saw the plan said they thought there were more alterations since the date of that plan, I was directed by the Speaker to write to Mr. Barry to learn whether there were any further alterations, and I received this answer from Mr. Barry, which I put up with the plan, to furnish the necessary information in case further inquiries were made.

[*The same was read, as follows:*]

My dear Sir, Westminster, 28 May 1842.

You are mistaken in supposing that there have been any material alterations made in the plan of the new Houses of Parliament since the plan was made, of which a copy was sent to you by Lord Duncannon, in January 1841. The plan remains in all its material features the same, and may therefore still be relied upon in giving information to Members.

Yours, &c.

T. Vardon, Esq. (signed) *Charles Barry.*

560. Do you know of any report in the library, referring specifically to the plan of 1841?—No; there has been no Report of any Committee since the date of that plan (*referring to it*).

561. Do you know of any estimate in the library, referring specially to the plan

plan of 1841?—I think in the Votes in the years 1842 and 1843; but it is for the Committee to judge of that; the estimates refer in words to things that were not contemplated before, and which therefore can only refer to that plan. In the estimate of 1842 there is a reference to the Royal Gallery. I think the Royal Gallery was not contemplated as laid down in the plan till 1841; and therefore the House of Commons were aware that they were voting money for things which were not in the plan of 1836. *T. Vardon*, Esq. 27 June 1844.

562. You know of no Parliamentary document containing the sanction of Parliament to the plan of 1841?—No.

563. Do you know of any document similar to that now shown you, which was put in by Sir John Hobhouse, on the 18th of April 1837?—No.

564. Has any new plan of the Houses of Parliament been circulated among Members in the present Session?—None has been laid before the House of Commons.

565. No other plan of the Houses of Parliament has been deposited in the library of the House of Commons, except the plan of 1841?—No, no other.

566. Do you know of any document containing the sanction of Parliament to any plan up to the present time, except to the amended plan of 1836?—No; there is no Report of any Committee sanctioning any other plan.

567. The recommendations of the Ventilation Committee in 1841 and 1842 have never been embodied and sanctioned by Parliament, as far as the deposit of any plan in the library, to the best of your knowledge?—No plan has been deposited in the library subsequent to these reports.

568. Have you procured the plan dated 1843, which I saw yesterday in the Lords' library?—Yes; the librarian of the House of Lords has sent it to me in consequence of a letter of Lord Duncan, in order for its being produced before the Committee to-day.

569. Be kind enough to read the title?—"Plan of New Houses of Parliament, dated 23d February 1843." Another is plan of part of Westminster and the River Thames, with proposed improvements, dated 23d February 1843, and another for the alteration of Westminster Bridge, of the same date.

570. By whom are they drawn?—By Mr. Barry.

571. Is there any signature of a Commissioner of the Woods and Forests attached?—No.

Alexander Milne, Esq. called in; and Examined.

572. *Chairman.*] YOU have been a great many years connected with the Office of Woods and Forests?—I have. *A. Milne*, Esq.

573. You were a Commissioner of Woods prior to the fire at the Houses of Parliament, and have been ever since?—Yes.

574. Mr. *B. Wall.*] Will you have the goodness to state whether there are two architects attached to your department?—There are.

575. Will you have the kindness to state their names?—Mr. Chawner and Mr. Pennethorne.

576. Mr. Pennethorne was formerly in Mr. Nash's office?—He was.

577. Do you consider them competent authorities for preparing and auditing estimates?—I do.

578. Are you able to state whether it is the habit of architects to make their own estimates, or whether they do not usually employ competent persons to do it?—I believe that some architects employ persons to make their estimates, and that others make their own estimates.

579. Are you aware that an estimate was sent in by Mr. Barry, in the year 1836, for the Houses of Parliament, which was checked by the officers of your department?—It was.

580. Will you state what officers checked those estimates?—Mr. Seward and Mr. Chawner.

581. Are those gentlemen now in the office?—They are, but they are in a state of health rendering them unequal to attend to business.

582. Will you state the reasons which prevented the adoption of a similar course with regard to the plan of 1841?—I have never seen the plan of 1841, therefore I cannot answer that question.

583. Are you aware whether there has been any subsequent plan to that of 1841?—I have heard that there has, but I do not of my own knowledge know anything of it.

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584. Is it the fact that in your own office there are no working plans for the Houses of Parliament, of any description?—There are none.

585. Will you state generally what you consider the exact powers of the Commissioners of Woods and Forests, with regard to any architects who are employed by them?—The power of the Commissioners of Woods and Forests would depend in a considerable degree on the nature of the building on which the architect should be employed. There are some cases in which they would expect plans to be deposited in their office, and those plans to be followed; there are other buildings to which they attend ministerially, having merely a control of the expenditure and the examination of the accounts.

586. They act merely ministerially in questions which affect the public purse?—They do.

587. In other cases you would consider the department were required to look into the plans of any alterations made in public buildings?—In cases where the preparation of the plans originated with the office, the office would expect that course to be followed.

588. Do you know that it has generally been the habit of the department to ask for plans and specifications of architects employed by them, or whether that has been the habit only where money was wanted?—Only in cases where money was wanted.

589. Are the working plans, when sent in to the office, referred to any particular officer in the department, or does such reference depend upon the wish expressed by the First Commissioner?—The plans sent in to the office would, in the ordinary course, be referred to the surveyor of works and buildings, Mr. Seward, if he was in a state of health to be able to attend to that business.

590. Is there any person who, during his indisposition, acts in his department for him?—The assistant surveyor, Mr. Phipps, has acted for him in the ordinary matters of business connected with the repair of buildings; but he has not been referred to to report on plans or estimates.

591. Does that answer apply merely to plans and estimates for the Houses of Parliament, or to the general working of the department?—There has been no other public work in progress since the department of Works and Buildings was under my charge, but the Houses of Parliament.

592. It has been stated by Lord Bessborough, who held the office of First Commissioner of Woods and Forests prior to its being occupied by Lord Lincoln, that his belief was that the plan of 1841 did not differ from the plan of 1836; will you state whether that is your impression?—I have no knowledge of the plan of 1836, or of that of 1841.

593. You cannot state whether that was the general impression in the department?—I cannot.

594. The department generally is ignorant of all the plans that have reference to the building of the Houses of Parliament?—I can only state that I have never seen the plans of the interior of the Houses of Parliament until last evening, when I happened to see them in the hands of Lord Lincoln's secretary.

595. Do not you think it desirable that your department should be supplied with the working plans of all alterations that are taking place in public buildings which are entrusted to your department?—I think it would be matter of convenience that it should be supplied with such plans.

596. That is your decided opinion, as the permanent Commissioner of Woods and Forests?—It is.

597. Viscount *Duncan*.] Will you have the goodness to cast your eye over that paper now shown to you, which was signed by you in 1836; has any other estimate, since the estimate that was checked by Mr. Seward and Mr. Chawner, in 1836, been placed in your office?—Estimates for various additional works have been sent into the office since the estimate checked by Mr. Seward and Mr. Chawner in 1836.

598. Has any estimate of the whole building, with the alterations, been placed in your office?—None.

599. Are the working drawings of the original plans of 1836, or copies of them, hanging up in your office now?—No; there are drawings appended to the first contract for the river front of the Houses of Parliament in the office; there are no other working drawings.

600. You

600. You did not see the plan of 1836 before Lord Duncannon signed it?—I did not.

601. You have not seen the plan of 1843?—I have not.

602. Nor the plan of 1844, which is now before the Committee?—No.

603. Mr. *B. Wall.*] Have you not drawings in your office of all the other plans, with the different alterations of public buildings in this country, with the exception of those for the Houses of Parliament?—We have no plans connected with the British Museum.

604. Mr. *Warburton.*] Windsor Castle?—Yes. The plans connected with Windsor Castle in the office are those appended to Sir Jeffrey Wyattville's work, which contains very elaborate plans of all the buildings either erected, or altered, or repaired by him, comprising nearly the whole of the Castle.

605. *Chairman.*] Does that include that portion of the building which was erected under the direction of the Parliamentary Commissioners?—It does.

606. Mr. *B. Wall.*] Do you not imagine that the reason why the plans with regard to the alterations at the British Museum are not regularly submitted to your office is, that that institution is in the hands of trustees?—I consider that to be the reason.

607. *Chairman.*] You have stated that no estimate of the whole of the building has been sent in to the Office of Woods since 1836. So far as you are aware, is it not the fact that estimates have been sent in for every additional work, however small, since that date?—There have; the estimates sent in since 1836, as far as my recollection goes, are, for a house for the librarian, a house for the principal clerk, a house for the Serjeant-at-Arms, the central tower, the warming and ventilating process, the rendering the building fireproof, the additional expense of foundations in consequence of quicksands, latterly for the office of the Clerk of the Crown, and still more lately for an alteration of the approach to the House of Lords.

608. Lord *H. Vane.*] You stated that you thought it desirable that the Office of Woods and Forests should have a plan of all works undertaken, and of any alterations in such works, whether those works originated from the Office of Woods and Forests or not; in so saying, you do not mean to draw a distinction between a case where the work originates with the Office of Woods and Forests, and a case in which it originates in another quarter, but is subject to the control of the Office of Woods and Forests?—I think the Office of Woods and Forests should have such plans in all cases of buildings not originating with them, as well as in the cases of buildings which do originate with them, and for which they are responsible.

609. You mean to intimate that you think it desirable that such plans should be required, without reference to the question of the quarter from which the plan originated?—I think that in all cases of buildings, the expense of which passes through the Office of Woods and Forests, it would be desirable that plans of the buildings should be deposited in the office.

610. Viscount *Duncan.*] And in all cases where alterations are consequent on the orders that have been given, you would think it desirable that the plans for those alterations should be deposited?—I think so, if the alterations be consequent on directions given to the architect by the Office of Woods and Forests.

611. There are some alterations in the plan for building the Houses of Parliament. It appears that, in consequence of those alterations, certain other alterations took place in the Victoria Hall and other parts; should you have thought it the duty of the architect to send in a plan of those alterations in the Victoria Hall, which were consequent on the other?—If he had been called upon by the Office of Woods and Forests to give an estimate for those alterations, I think it would have been desirable that a plan of the alterations consequent upon that order should have accompanied the estimate. If the original plan had been deposited in the Office of Woods, I should have thought it desirable that the alteration in the original plan, and the plan for the alterations as in this case of provision for the Office of the Clerk of the Crown, for instance, should both appear upon a plan to be delivered to the office.

612. Sir *G. Clerk.*] Are the contracts which have been entered into with Messrs. Grissell and Peto below the original estimate sent in by Mr. Barry, for those portions of the building, and checked by Seward and Chawner?—From

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information received from Mr. Barry, I have reason to believe they are within the estimates.

613. Notwithstanding the alterations made by the architect, such parts of the building as have been contracted for, have been executed on terms below the estimate?—Yes, I believe they have.

614. Where additional estimates have been given in by Mr. Barry, for fresh accommodation to be provided, have they been contracted for without any additional expense, beyond that which the estimate stated to be consequent on such alterations?—Yes, I believe so.

615. *Chairman.*] There is no reason to suppose, from the information possessed by the Office of Woods, that there has been any excess on any of the works hitherto executed, or that there will be, so far as you are able to judge, any excess on the contracts with Messrs. Grissell and Peto?—The Office of Woods has no reason to expect that there will be any excess upon those contracts.

616. Viscount *Duncan.*] How far do those contracts extend, do they extend to the completion of the buildings?—No; there are only two contracts now in operation for the superstructure of the buildings; one for what remains to be completed of the river front, and the other for the Houses of Lords and Commons and the appurtenant buildings.

617. Sir *G. Clerk.*] Do you include the Victoria Gallery in that?—Yes.

618. *Chairman.*] Though the contracts taken do not include the whole of the building, do they not, in your opinion, afford a very fair test of the accuracy of Mr. Barry's estimate?—They do, very much so.

619. Mr. Barry having accompanied his specifications with an estimate, the estimate, so far as it has gone, has been verified by the contracts which have been taken?—It has.

Sir *William Gosset*, called in; and further Examined.

Sir *William Gosset*

620. Viscount *Duncan.*] WHAT is the establishment connected with the housekeeper in the House of Commons?—A deputy-housekeeper, an assistant, a person attending the ventilator, three office-keepers, two of them in Parliament-street and one at the Speaker's house, and two fire-lighters.

621. What are the duties of the persons holding each of those offices?—The deputy-housekeeper has charge of all the stores, and keeps the accounts; has the general superintendence of the cleansing of the House, the lobbies, the committee and the dressing rooms, and the Post-office. The refreshment rooms are also in his department, but under the immediate management and superintendence of Mr. Bellamy, the assistant-housekeeper, who has any advantage arising therefrom.

622. Will it not be necessary, in your opinion, to increase the establishment in the new Houses?—Unquestionably.

623. Assuming that more persons will be required to clean and dust, and so on; may they not at other times be employed as porters and messengers?—They may be employed in other capacities during a part of their time.

624. How do you propose to conduct the coffee-room in the new Houses?—I have not made up my mind upon the subject; with the increased accommodation I hope we shall be able to manage it better than at present. I have no doubt some improvement may be made in that department. I have a doubt, however, whether it would be advantageous for a Committee of the House of Commons to manage it.

Charles Barry, Esq. called in; and further Examined.

Charles Barry, Esq.

625. *Chairman.*] WHEN you were before the Committee on a former day, a question was asked you as to the time when the two Houses of Parliament might be occupied; have you, since that time, turned your attention to that subject more particularly?—I have not reconsidered the subject since I gave that answer; but I have no reason to doubt that the two Houses might be got ready within the time which I then mentioned.

626. That time being the commencement of the Session of 1846?—Yes; I do not mean to say that the Houses with all their decorations will be perfectly complete; much will depend upon the amount of decoration which is bestowed upon the fittings of each House, but I imagine the framings might be so constructed

structed as that the Houses might be occupied, although the fittings would not be perfectly complete as regards their carvings and decorations.

627. You do not mean that they would be merely fitted up in a temporary way, but that they would be fitted up so that nothing would have occasion to be undone, or increased expense entailed by that early occupation?—According to the plan which I have proposed, it would not be necessary to remove any portion of the work which will then be put up.

628. You mean to say that the building may be in such a state in the beginning of February 1846, as that the Queen may open the Parliament, and that the two Houses may sit in the new buildings throughout the Session, and that the works remaining to be done may then proceed at the close of the Session, with merely the interruption of the Session, but without any other inconvenience or expense?—Yes; that, I imagine, might be effected.

629. Mr. *B. Wall.*] Some works would be going on in the unoccupied part?—Yes.

630. *Chairman.*] Do you contemplate that, together with the two Houses being ready for occupation early in February 1846, a considerable number of committee-rooms will also be prepared for the reception of Members?—I anticipate that such will be the case.

631. You apprehend that independently of the two Houses, proper offices and committee-rooms will be in such a state of preparation as that no practical inconvenience to the general working of Parliamentary business will ensue from the change from the present Houses to the new ones?—That is my opinion.

632. Will you state whether you think that the whole of the building, independently of the Victoria Tower, may be covered in and completed, without entering into those questions of internal decoration which may eventually be decided on by the Fine Arts Commission, and sanctioned by the Treasury?—I am not quite prepared to answer that question, for the completion of the building depends in part upon the removal of some of the existing buildings; I mean the present Houses; if they are taken down immediately on their being vacated, and the other buildings adjoining them are removed, and the site is entirely cleared for the new buildings, under such circumstances I should be able to form an opinion as to the completion of the entire carcase of the building, with the exception of the Victoria Tower, the central tower, and the clock tower.

633. In my question I was, of course, assuming that there would be no difficulty as regards money, but that the Chancellor of the Exchequer would be prepared to submit to Parliament such a vote as might be fairly expended by you within the time, and that there would be no objection to the removal of the old buildings when the new Houses were ready to be occupied. Can you now state the time at which you think the carcase might be completed, with the exception of the towers?—I should say within the period of about two years from the entire clearance of the site, the carcase of the entire building might be completed, with the exception of the towers to which I have adverted; that is, if no unforeseen difficulties should occur in respect of the foundation.

634. How do you propose to provide in future for the accommodation of the masons, independently of the coffer-dam, upon which they are now working?—Most of the courts in which the masons' sheds are now erected would remain as courts, and therefore their sheds would remain in their present situations. It would be necessary probably to occupy a portion of the ground-floor of the building for any extra hands that might be required, and it might be even necessary to have an additional site for working, either adjoining the site of the Houses, or at some very convenient distance from them.

635. Viscount *Duncan.*] Will the central tower be in such a state of forwardness in February 1846 as to enable the ventilation of the two Houses?—That is a question rather for Dr. Reid than myself to answer. The central tower will be far from complete at that period; the due ventilation of the Houses will therefore, I imagine, depend upon the expedients which Dr. Reid may have recourse to for that purpose.

636. Mr. *B. Wall.*] Would not the occupation of the Houses in February 1846, as proposed by you, retard the other work, and prevent its proceeding so rapidly as it otherwise would if the occupation of the Houses were postponed to February 1847?—To a certain extent any partial occupation of the building would

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would undoubtedly create some degree of inconvenience in proceeding with the works, and occasion a delay in the completion of the building.

637. Mr. *Warburton.*] If the occupation of the Houses were delayed another year, would you be able to finish the central tower and the various other works on which the ventilation of the Houses is to depend?—Yes; I think if it were delayed another twelvemonth, that would probably enable me to complete the central tower, which indeed is a most important portion of the building as connected with the warming and ventilating arrangements of it. I should not, within the same period, however, be able to complete the clock tower and the Victoria Tower; but I apprehend the completion of those towers is not of equal importance with the completion of the central tower.

638. *Chairman.*] Do you mean to say that you could undertake to complete the central tower to its summit by February 1847?—Yes; I think by great exertion it might be done.

639. By great exertion and considerable expense?—Certainly.

640. Viscount *Duncan.*] Would that be additional expense?—If any extraordinary exertions were used, and a very considerable number of men were employed upon it, that would create some additional expense.

641. Viscount *Palmerston.*] When you state that the two Houses might be occupied in February 1846, do you assume that there would be any decoration applied to the inside, either fresco or painting or sculpture, or does that simply suppose that there would be the Houses?—My answer relates only to the completion of my portion of the work, irrespective of any frescoes or paintings, or other decorations that may be applied.

642. If the interior of those apartments were to be decorated by painting or fresco, that might render a further delay necessary?—It would, undoubtedly.

643. Do you happen to recollect how many years it took to complete St. Paul's Cathedral?—About 40 years.

644. Can you state the relative area of St. Paul's and the Houses of Parliament?—The area covered by St. Paul's Cathedral is less than two acres. The area covered by solid building in the new Houses of Parliament is above five acres.

645. Can you form any estimate of the cubical amount of the two buildings?—The cubic contents of St. Paul's Cathedral amount to about 10,891,000 feet. The cubic contents of the new Houses of Parliament amount to nearly 15,675,000 feet.

646–7. Mr. *Warburton.*] The detail of arrangements would be greater?—Infinitely greater.

648. *Chairman.*] Are you aware of the relative heights of St. Paul's and the Houses of Parliament, as contemplated by you?—Yes; the height of St. Paul's Cathedral to the dome is 370 feet above the surface of the ground; the height of the Victoria Tower to the summit of its pinnacles will be 342.

649. In the course of the investigations of this Committee a plan has been laid before them which bears your name, which is dated 23d of February 1843; this plan was brought to the Committee from the library of the House of Lords; are you enabled to state whether this plan was laid by you before the Committee of the House of Lords in the course of the last year, or in what other manner it came to be in the library of the House of Lords?—This plan, and the others which accompany it, were engraved by the direction of the Fine Arts Commission, and, I think, by the desire of the Commissioners a copy was sent for the library of the House of Lords.

650. Viscount *Duncan.*] Are you quite sure that one was sent to the library of the House of Commons?—Such is my impression.

651. *Chairman.*] Was the plan of 1841, namely, a duplicate of the plan now in your hand, before the Committee of the House of Lords last year?—No, I think not; the plan which was before the Committee of the House of Lords last year was that just produced by your Lordship, namely, the plan dated February 1843.

652. Viscount *Duncan.*] In your evidence before the Committee of the House of Lords on the 29th of April last, in answer to Question 141, you allude to a plan which had been in their Lordships' library for more than a twelvemonth; is the plan of 1843 that to which that allusion is made?—Yes, that is the identical plan.

653. Is the plan to which reference is made in answer to Question 3 in our Evidence, the plan of 1836?—Yes.

654. Is that the original plan approved of by the joint Committee of 1836, and sanctioned by Parliament on the 18th of April 1837?—Yes, it is.

655. Is that the plan the estimates for which were checked by Mr. Seward and Mr. Chawner, and by yourself?—It is.

656. Have the goodness to look at the plan of 1841; is that plan, signed by Lord Duncannon, and deposited in the library of the House of Commons, a fac-simile of the plan of 1836?—No, it is not a fac-simile, inasmuch as this is a block plan, and the plan of 1836 is a plan in detail. Various changes have been made in the general distribution and the internal arrangement of the building, making differences between this plan and the plan of 1836. This plan of the year 1841 was merely an outline plan of the new Houses of Parliament, showing the general arrangements of the principal floor.

657. Did you tell Lord Duncannon, when he signed that plan of 1841, that it was a fac-simile of the plan of 1836?—Certainly not. I may take this opportunity to observe, with respect to the plans of 1841, one of which was sent to the library of the House of Commons, and another to the library of the House Lords, both being signed and sealed by Lord Duncannon, that, as far as my recollection serves me, I was called upon by Lord Duncannon at that time to prepare such plans for such a purpose, and this is one of the plans alluded to.

658. But no estimate was made with reference to that plan?—None whatever.

659. At what period was the plan of 1843 deposited in the library of the House of Lords?—I observe that I stated in April last that it had been deposited above a twelvemonth, and I believe that is correct.

660. At whose request was it deposited?—I understand at the request of Lord Colborne.

661. Was the plan of 1843 sent to the library of the House of Commons?—I have a strong impression that it was; but if not, it was certainly intended to be sent.

662. What authority had you to change the plan of 1841 into the plan of 1843?—Those authorities to which I have alluded very fully in my former examination; the changes were consequent, as I have before stated, upon carrying into effect the orders sent to me by the Government to provide certain additional accommodation; and in making such provision, I took the opportunity of improving the arrangements of the building to the best of my judgment, wherever it appeared desirable.

663. Were the plans of those consequent alterations submitted to any one?—No.

664. Was a fresh estimate made by Mr. Seward and Mr. Chawner, each time a fresh plan was substituted for the old one?—No.

665. Is it usual for architects themselves to make estimates, or do they generally employ other persons to do so?—They generally employ other persons, but it is assumed that the architect himself is able to do it; he has seldom, however, the time that is necessary for the purpose.

666. Did you employ other persons to make the estimates in 1836?—Yes, I did.

667. Whom did you employ to check your estimates in 1841 and 1843, when the new plans were formed?—The estimates of 1841 and 1843 were delivered, from time to time, to the Office of Woods; I cannot say by whom they were checked in that office.

668. Has there been time to check the estimates for the plan of 1844, since it was finally altered?—Unquestionably there has been time sufficient to do it.

669. Is the outside of the clock tower, towards New Palace-yard, finished in the same manner as the rest of the outside of the building?—The outside of the clock tower, towards Palace-yard, is prepared in such a way that it may be either completed as an external elevation, or may be made a party-wall to any additional building; it is so arranged, that there will be no difficulty, if it should ultimately be determined not to enclose New Palace-yard, in making that a stone elevation like the rest.

670. *Chairman.*] Have you adopted that course in consequence of a communication which was made by me to you, that courts will be required for the two vice-chancellors, and possibly other accommodation for the law courts, respecting

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which no decision had yet been come to by the Government, even as to their locality, whether here or in Lincoln's-Inn Fields, but that it was exceedingly probable they would eventually be fixed here, and therefore requesting you to turn over in your mind how such accommodation might best be secured if required, and so to regulate your plan, if possible, as without entailing any additional expense if they should be placed elsewhere, to enable you to complete your erection without them?—It was in consequence of your Lordship's communications as to the probable necessity of affording additional accommodation for the law courts and for other purposes, that I so constructed that tower in such a manner as that the accommodation required might be provided in New Palace-yard, if it were so determined, with little or no additional expense.

671. If it should be eventually decided by the Government or by Parliament, that the courts should be placed in Lincoln's-Inn Fields, or elsewhere than in the neighbourhood of the Houses of Parliament, will any additional expense beyond that already sanctioned by Parliament, have been occasioned by your attention to such direction given verbally by me?—No material expense; a certain amount of expense would be occasioned by removing the brickwork and substituting stone, but that is an expense of very immaterial amount.

672. Would that expense amount to 500*l.*?—Certainly not.

673. Would it amount to half that sum?—To about 200*l.*, I should say.

674. It has been represented to some Members of the Committee, that there is an inequality in the arch through which the state coach will have to pass when the Queen comes down to open Parliament. Will you state how far that representation is justified by the fact?—That representation is not justified by the fact, which is, that both the inner arches through which the state carriage will be drawn off after the Queen has alighted, are above the plinth identical in width, namely, nine feet six inches.

675. Viscount *Duncan.*] Is there a plinth to each of the arches?—Yes.

676. *Chairman.*] Are they precisely similar in that respect?—Yes.

677. It has also been stated, as perhaps you are aware, in the newspapers and elsewhere, that sufficient width is not given for the introduction of the state coach into the main archway without imminent danger to the coach itself; will you give such details as to the dimensions of the arch and the measurement of the coach, as will enable the Committee to form an opinion how far that is true?—It is not true, most certainly. The arch which I suppose is alluded to is not the main archway of the tower, but the archway to the carriage corridor, on the east side of the tower.

678. What is the extreme width of the arch?—The extreme width is nine feet six inches.

679. What is the outside measure of the carriage?—I think eight feet two inches.

680. When you state the width of the arch to be nine feet six inches, do you mean that that is the width between the plinths?—No; I mean that that is the width above the plinths.

681. By how much do the plinths diminish the width of the arch?—Two inches on each side, leaving nine feet two inches between the plinths.

682. What is the height of the plinths?—From recollection, I should say they are about two feet three or four inches in height.

683. Mr. *B. Wall.*] You consider that six inches is a sufficient allowance on each side?—Certainly, sufficient for the passage of the carriage in drawing off after the Queen has alighted, as the wheels would be kept in their proper course by curbs. I do not mean to say that the archway would not be better, for appearance sake, if it were widened.

684. Would it entail much additional expense to enlarge it?—No, it certainly would not; the great difficulty is in raising the point of the arch, owing to the necessity of confining it to the height of the ground-floor. The height might be increased as well as the width, to a certain extent, and I think without much difficulty.

685. That would entail additional expense?—It would entail a small additional expense; but that is one of the alterations included in the estimate which has been sanctioned by the Treasury, for modifications relative to the state approach.

686. Are the Committee to understand that you contemplate increasing the width

width of that arch?—I do propose to increase the width of it, but I do not mean to admit that it is absolutely necessary to do so; but for appearance sake, and in deference to the opinions which have been expressed upon the subject, I propose to enlarge it. The first arch appears to be narrower than the second, but it is not really so.

687. *Chairman.*] Do you mean that the additional expense to be incurred by increasing the width of the arch is included in the estimate of 800*l.*, which was submitted by me to the Treasury lately, and has been approved by them?—Yes, I do.

688. When you state that the archway of the Victoria Tower is nine feet six, do you refer to that through which the carriage is to pass prior to setting down the Queen, or the archway through which it has to pass after it has set down Her Majesty?—The archway to which I allude is that through which the carriage would have to pass after the Queen has alighted.

689. What is the width of the first arch through which the carriage has to pass before it sets down the Queen?—The width of that archway is 26 feet 6 inches. Since the last meeting of the Select Committee of the House of Lords, the two state coachmen have been sent to me by Lord Jersey, the Master of the Horse, and their opinions have been taken as to the facilities afforded for the passage of the state carriage on the occasion of the visits of the Queen to the House. Their opinions were, that there will be no difficulty whatever either in passing through the archways, to which allusion has been made, or to the turning of the carriage within the Royal court.

690. Complaints have also been made, that the passage through which the state coach will have to pass after setting down the Queen, and prior to turning round, will be much too dark to be safe; have you made any provision for lighting, which in the present state of the plan does not appear, and which will obviate that objection?—I do not admit that it will be too dark for the purpose, and therefore I do not contemplate any artificial mode of lighting it.

691. What is the extent of the passage?—That corridor is less than 90 feet in length, commencing at the Victoria Tower on the east side, and terminating at the west side of the Royal court.

692. What is the width of the Victoria Tower?—The width of the Victoria Tower, externally, is 75 feet.

693. *Chairman.*] In the course of the examination of Dr. Reid, he stated that it would be exceedingly desirable, for the purpose of his scheme of ventilation, that you should afford him greater space, under what he calls the Houses proper, than you at present propose to give him; he deprecates exceedingly the appropriation of the halls under the Houses for the purposes of horses and carriages; and he proposes, by these diagrams which he has submitted to the Committee, that additional height should be given to him: do you see any objection to such arrangement?—I perceive by this plan, a clear height of seven feet is required below the level of the floor line of the House; to that extent I should be disposed to accede to Dr. Reid's proposition, that is, if the Committee do not attach any or much importance to the appropriation of those sub-halls for carriages and horses in waiting.

694. Viscount *Palmerston.*] Would not the appropriation of the spaces below the Houses of Parliament to horses and carriages, be likely to create noise above?—I do not imagine that it would, inasmuch as it is proposed to groin over the sub-halls with stone.

695. Lord *H. Vane.*] Do not you imagine that it would have an injurious effect on the atmosphere?—It might possibly have some injurious effect on the atmosphere; that I know is the opinion of Dr. Reid.

696. What sort of accommodation would the space afford, if it was so appropriated?—I should think it would provide accommodation for the horses and carriages of a hundred Members. It is quite fair I should state that such an appropriation was merely a suggestion of my own, as the space and locality appeared to me to be convenient for such a purpose. I have no desire, however, to be pertinacious in my recommendation that it should be so appropriated.

697. Would it be sufficiently lofty for such a purpose?—Yes.

698. Viscount *Palmerston.*] Even if the arches should be groined, would there not be a considerable vibration from the stamping of the horses and the rolling of the carriages, that would communicate itself to the upper portion of the building?—If means were taken to prevent that, by the wood or Indian rubber

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pavement, as well as other precautions, such possible inconvenience would be, to a considerable extent, if not wholly, obviated. It is probable, however, that a more valuable appropriation of the space may be made in consequence of the proposed arrangements for the accommodation of the public records within the palace.

699. Mr. *Pendarves.*] It is only under the supposed necessity that you propose this accommodation for horses and carriages?—Just so.

700. Viscount *Duncan.*] Will you turn to the block plan of 1836, annexed to the Report of the Committee in that Session: No. 12 in that plan is called the King's Entrance Hall, or Vestibule?—Yes.

701. That room does not appear in the plan of 1841?—No, it does not.

Jovis, 4° die Julii, 1844.

MEMBERS PRESENT.

Sir George Clerk.	Viscount Palmerston.
Mr. Darby.	Lord Granville Somerset.
Viscount Duncan.	Lord Harry Vane.
Mr. Estcourt.	Mr. Baring Wall.
Sir Robert Inglis.	Mr. Warburton.
The Earl of Lincoln.	

THE EARL OF LINCOLN, IN THE CHAIR.

Charles Barry, Esq., called in; and further Examined.

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4 July 1844.

702. *Chairman.*] SINCE the last meeting of the Committee your attention has been called by me to the evidence of Lord Bessborough, which has been given to this Committee, in consequence of allusions contained in it bearing upon your conduct. Have you any observations to offer to the Committee relative to those allusions?—Yes. In the observations which I have to offer upon Lord Bessborough's evidence, as it regards myself, I beg it may be understood by the Committee that I have no reason to believe, or any wish to have it inferred, from anything I may say, that several mis-statements, which it appears to me to contain, have been made by his Lordship with any unworthy desire to justify improperly his own conduct or to impugn mine; on the contrary, I feel perfectly satisfied that such mis-statements have been made simply upon an imperfect recollection of the facts to which they allude. First, as to the plans of 1836 and 1841. In answer to Question 456, Lord Bessborough states, "When I put my name to the plan of 1841, Mr. Barry informed me that it was the same as the plan of 1836." And in answer to Question 474, "Was any estimate or detail made out of the plan of 1841 similar to that made out in respect of the plan of 1836?" Lord Bessborough's answer is, "No, certainly not, because he told me it was the same with the plan of 1836, which I wished him to deposit in the libraries of the two Houses of Parliament." In the first place, I must deny that I stated to Lord Duncannon that the plan of 1841 was the same as the plan of 1836, on the occasion alluded to, or at any other period. Until within the last month, when I saw the plan of 1841, which is deposited in the library of the House of Commons, I did not even know that Lord Duncannon had signed it. In answer to question 482, put by Lord Duncan, "Did Mr. Barry mention any alteration from the plan of 1836, when he asked your Lordship to sign the plan of 1841?" Lord Bessborough answers, "No; on the contrary, he told me that it was the same with the plan deposited." On this question and answer I beg to say, that I never asked Lord Bessborough to sign the plan of 1841, and as I have just stated, did not even know that he had signed it until within the last month. I must again deny that I ever told Lord Duncannon that the plan of 1841 was the same as the plan of 1836. If I could have been base enough to have told him what I knew to be false, can it be supposed to be likely

likely that I should have laid myself open to the instant and easy detection that might have followed, by placing the two plans side by side, when the differences in detail, which are considerable, would be obvious to any one, and which detection might have been made by Lord Duncannon himself at the time, or subsequently by any one of the Members of either House of Parliament, all of whom had a copy delivered to them of the plan of 1836. There could be no object in depositing the plan of 1841 in the libraries of each House, other than to show its deviations from the plan of 1836, inasmuch as each library then contained, and still continues to have a copy of the plan of 1836. I have no recollection whatever of Lord Duncannon having put any question to me, as to the identity of the two plans, but if any explanation had been required of me, all I could have said is what I now say, and maintain, with respect to the building as it is being executed, that all the main features and principles of the original plan of 1836 are still adhered to, and that the alterations which have been made may be fairly said to be variations in detail alone. What I mean by the main features of the building are, the Victoria Tower, the Central Tower, and the Clock Tower, the House of Lords, the House of Commons, the Libraries and Committee-rooms, the state approach, the public approach, and the private approaches to each House, the public staircase, the Speaker's residence, Black Rod's residence, and the residence of the Serjeant-at-Arms; all of which are still adhered to, and placed in the several positions assigned to them in the plan of 1836, which was approved by Parliament. I do not deny that Lord Duncannon may have signed the plan of 1841 under an impression of its identity with that of 1836, but I must again deny that I ever said anything, either directly or indirectly, to convey that impression to his mind. If I could be guilty of practising the deception upon Lord Duncannon that is imputed to me, I should be utterly unworthy of all confidence whatever, and wholly unfit to be entrusted with the conduct of a great national work. Secondly, as to contracts. With respect to alterations, Lord Bessborough states, in answer to Question 472, "I know that he (Mr. Barry) was confined as far as it was possible; I am sure of that, for I know that Mr. Barry had conversations with the solicitors of the Board, and that he endeavoured to prevail upon them to leave out certain words which he thought too stringent." And in answer to Question 480, his Lordship states, "It certainly was intended to bind the contractors and the architect, and it is clear that the architect so considered it, because he endeavoured to get those words altered." With respect to these assertions of Lord Bessborough, I must again deny that I ever made any remarks to the solicitors of the Board, to induce them to alter any words in the contract relating to myself. All the observations which I made on the contract, and they are very numerous, are written in my own hand in the margin of the original draft, which was shown to me two days ago by the solicitors to the Board, and in which not one word of remark appears upon the clause relating to alterations, to which Lord Bessborough has referred. As I am not a party to that contract I do not, and never did, consider myself bound by it in any shape or way. If, however, I had considered myself to be bound by it, I could not have had any objection to the clause in question as it stands; in that clause I am recognized as the agent only of one of the contracting parties, acting under the authority and with the sanction of the Treasury and the Commissioners of Woods, which sanction or authority, either direct or implied, I maintain I have had for all the alterations which have been made in the details of the plan. With the permission of the Committee, I will hand in the drafts which have been put into my hands this morning by the solicitor, Mr. Gardner, of the Woods and Forests, with the knowledge and permission of the Chief Commissioner; they are the drafts of the contracts, No. 3 and No. 5, which will be found to verify what I have stated in my remarks upon these contracts.

703. Lord *G. Somerset.*] Was Mr. Gardner the gentleman with whom you had the personal communication you have mentioned?—He was; it is important to observe, that in contract No. 3, no observation occurs opposite to the clause in question; in contract No. 5, which was drawn at a subsequent period, an observation does appear against the clause in question, in the form of a question of the counsel to whom that contract was referred, Mr. Ker, as to that clause; the question is, whether that clause is to stand as it is there given, to which I appended a note, to the effect that it is to be drawn as in the original contract, No. 3. These drafts I will hand in. (*The same were delivered*

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delivered in.) Thirdly, as to remuneration. In answer to Question 526, Lord Bessborough makes the following statement: "When I informed Mr. Barry that he was not to be paid by a per-centage under any circumstances, and that the sum had been fixed at 25,000 *l.*, he remonstrated; put in a protest. I told him, that as long as I had anything to do with the office, or any influence with any one who might hold the office, he could not have that increased. Mr. Barry stated, that with respect to himself he did not object to the money, but on the part of the profession he protested against not being paid in the usual way." In reply to this statement, I beg to say that I have no recollection of the kind of observations which Lord Bessborough states he made to me on this subject; nor, to do his Lordship justice, of his uncompromising hostility to any increase of the proposed remuneration under any circumstances. Lord Duncannon would never inform me, either privately or officially, as to the principle upon which the proposed remuneration was founded, and I always objected to the amount of it, not only, as he states, on behalf of the profession alone, but also on my own account, as my letters clearly show. As evidence that I objected to the remuneration, both on personal as well as professional grounds, I beg to hand in copies of my letters to the Office of Woods, dated the 27th March 1839, and the 22d April 1839, and also a copy of a reply from the Office of Woods, dated the 12th April 1839, wherein the Board declines to explain the principle on which the proposed remuneration is founded. These letters are contained in a Return of the correspondence upon the subject of my professional remuneration lately made to an Order of the House of Commons.

704. Mr. *B. Wall.*] You were understood to state that you did not know that Lord Duncannon had signed the plan of 1841 till within the last month?—I had no knowledge that he had so done; I only heard it within the last month, since the sitting of the Committee.

705. Were you not aware that that plan of 1841 was placed in the library of the House of Commons?—Yes, I was aware that a plan was to be sent both to the House of Commons as well as to the House of Lords, and I prepared the identical plans which I find were sent to each House; those plans are dated February 1841, and contain my own signature.

706. What was the date at which those plans were sent to the two Houses of Parliament?—I am not able to say; having prepared the plans, they were forwarded to the Office of Woods; but when they were sent to the libraries of each House, I have no knowledge.

707. Lord *G. Somerset.*] Will you point out in these draft articles of agreement some of the observations which you yourself made?—(*The Witness pointed them out upon the Paper.*)

708. Are all your observations in pencil?—Some are in ink and some in pencil; there are a number of such observations throughout.

709. You are now speaking of the first contract made in the Autumn of 1839?—Yes; the clause to which Lord Bessborough has alluded is in folio 8 of the draft contract, No. 3, and it is as follows: "And also, that if the said Commissioners parties hereto, or the Commissioners for the time being of Her Majesty's Woods, Forests, Land Revenues, Works and Buildings, or the Lords Commissioners of Her Majesty's Treasury, or the said Charles Barry, or other their agent for the time being, with their sanction, shall be minded and desirous of making any alterations or omissions in or additions to the said plans, elevations, sections, drawings, and designs, and the specification or other descriptions hereinbefore mentioned, or any of them, or in the mode or manner in which the said works hereby contracted for are covenanted to be completed as aforesaid, or in the stone or other materials to be used in or about the same, and shall in consequence of such their or his mind or desire give an order or notice in writing, or such explanatory drawings as may be necessary and sufficient, to the said Thomas Grissell and Samuel Morton Peto, their executors or administrators, signed by the said Charles Barry, or such other architect for the time being as aforesaid, therein particularly and minutely mentioning, describing, showing, and setting forth the nature and mode of such proposed or wished-for alteration, addition, or omission, then and in every such case no such alteration, addition, or omission shall vitiate or invalidate this present contract, but the said Thomas Grissell and Samuel Morton Peto, their executors and administrators, shall and will, upon receiving such notice or order, or

such explanatory drawings as aforesaid, obey, abide by, perform, and observe the directions and contents of every such order or notice, or such explanatory drawings, and build, erect, construct, perform, and complete the said works according to the altered manner therein directed and specified, and as if such alterations or variations had been included in these presents, and the said drawings, plans, and specifications."

710. Did you make any observations upon that clause?—None whatever. Then I beg to refer to the draft contract, No. 5, which was drawn at a subsequent period, dated January 1843; in which an observation appears to be made by Mr. Ker upon this clause, to this effect: "Query, is it intended that the sanction of both the Commissioners of Woods and the Treasury should be obtained for any alteration? *W. Ker.*" I have added the following remark upon that question, "To be drawn as in contract No. 3."

711. Are the Committee to understand that you thought that the clause in contract No. 5 was not drawn so strictly and so stringently as in contract No. 3, and that you advised that that contract No. 3 should be taken as the pattern?—No; the clause alluded to in contract No. 5, is identically the same as the clause in contract No. 3.

712. You approved of that?—I approved of that, and said that the clause was to be drawn as in contract No. 3.

713. Lord *Duncan.*] As it appears that no plan of 1843 can be found in the library of the House of Commons, will you state when you deposited the plan of 1843 in the library of the House of Commons?—I have already stated that my impression was, and a very strong impression I certainly had, that one was sent to the library of the House of Commons. Upon inquiry since I last attended the Committee, I cannot find that any such plan was sent to the House of Commons.

The Chairman informed the Committee that having made a communication to Lord Bessborough, informing him that Mr. Barry would be examined by the Committee to-day, with reference to the evidence given by his Lordship, and inquiring whether his Lordship would wish to be present to hear the evidence of Mr. Barry, and to make any observations which might occur to him upon it, he had received the following reply:—

Dear Lord Lincoln, Cavendish-square, 3 July.

I HAVE a letter from Mr. Phillipps, informing me that the Committee meet to-morrow, and that Mr. Barry is to be examined as to certain points in my evidence to which he objects. I have seen Mr. Phillipps at your request on this subject, and I cannot alter any observations that I have made on any of the points which Mr. Barry objects to. I am perfectly confident as to Sir Benjamin Stephenson's opinion on the mode I had fixed for Mr. Barry's remuneration, although I am well aware that he did not approve of it as one to be adopted in all cases, and particularly in those of small amount. I am quite confident also as to the intention of putting in the words into the contract of Messrs. Grissell and Peto, with their sanction. I am also quite certain that in depositing the plan in 1841 in the libraries of the two Houses of Parliament, I had the assurance of Mr. Barry that it was the plan on which he was working, and that it had been approved of in 1836. I cannot attend to-morrow, as I am engaged on two committees in the House of Lords; but even if I were not so engaged, I could state nothing further than the observations which I now make.

Believe me, &c.

(signed) *Bessborough.*

REPORT

FROM THE

SELECT COMMITTEE

ON

HOUSES OF PARLIAMENT;

TOGETHER WITH THE

MINUTES OF EVIDENCE

TAKEN BEFORE THEM.

Ordered, by The House of Commons, *to be Printed,*
4 *July* 1844.

[*Price* 9*d.*]

Under 12 oz.

448.

Brought from the Lords, 9 August 1844.

SECOND REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS

APPOINTED TO INQUIRE INTO THE

PROGRESS OF THE BUILDING

OF THE

HOUSES OF PARLIAMENT,

AND TO REPORT THEREON TO THE HOUSE;

WITH

THE MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE.

Session 1844.

Ordered, by The House of Commons, *to be Printed,*
9 *August* 1844.

SECOND REPORT.

BY THE LORDS COMMITTEES appointed a SELECT COMMITTEE to inquire into the PROGRESS of the BUILDING of the HOUSES OF PARLIAMENT, and to report to The House; and to whom Leave was given to report from time to time to The House;

ORDERED TO REPORT,

THAT the Committee have met, and considered the subject-matter to them referred, and examined Witnesses in relation thereto; and it appears to the Committee that an understanding was entered into, when the arrangements for the existing accommodation of the Houses of Parliament was determined upon, that the new House of Lords, with its necessary appurtenances, should be proceeded with more speedily than other parts of the Building.

That there is no record of any orders having been officially given, and no steps have been taken in accordance with such an understanding.

That the Committee appointed last Session, in their Report to The House, recommended that the Architect should so conduct his operations as to secure the occupation of the new House of Lords, with temporary fittings, at the commencement of the Session of 1844; and that if he should find that more time would be required, that he should report the same to the Commissioners of Her Majesty's Woods and Forests, in order that such Report might be communicated in due time to The House.

That instead of the new House of Lords being covered in by Christmas last, as was stated to be practicable by Mr. Barry, in his evidence last year, it is now only in course of erection.

That Mr. Barry now states, that if great exertions are made, the House of Lords, the Lobbies at each end of it, the Corridors connecting the same with the front Building and the Libraries, the Committee and other Rooms belonging to the House of Lords, may be covered in before Winter; and the Committee having examined the Building, with the Clerk of the Works and one of the Contractors, are of opinion that the whole of these apartments may be prepared for the use of the Lords by April next.

That the Committee do not recommend that any temporary fittings should be prepared, but that all the works connected with the Buildings above mentioned should be advanced with the greatest possible speed.

And the Committee have examined Mr. Barry with respect to the style of internal fitting and decoration, and he has distinguished those parts of the Building to which he considers the more costly and elaborate style should be applied. In respect to the remaining portions of the internal arrangements, the Committee entertain the strongest opinion, both in reference to economy and despatch, that the Committee Rooms and secondary Apartments should be completed in the most simple and solid manner consistent with the character of the general Building, but not involving any extraordinary expenditure.

In respect to the deviations from the original Plan, it has been satisfactory to learn that they have not been of a character to vary or affect the Builder's contract; and that no future deviations are to be allowed, without the previous sanction and authority of the Commissioners of the Woods and Forests.

And the Committee have directed the Minutes of Evidence taken before them to be laid before Your Lordships.

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The LORD PRESIDENT in the Chair.

CHARLES BARRY Esquire is called in, and further examined as follows:

276. IN your former Evidence you stated that you had communicated with the Master of the Horse on the Subject of the Accommodation; to whom did you allude?

I alluded to a Communication I had with the Master of the Horse during Lord Albemarle's Tenure of that Office, by means of a Letter to his Deputy and Secretary, Mr. Spearman, who afforded the Bearer of that Letter every Facility for taking the Measurements of the State Carriage, &c., which I required.

277. What was the Date?

It must have been more than Five Years ago. On a subsequent Occasion, in November 1841, I again sent a Clerk and my own Son to the Queen's Mews at Pimlico, when they saw the Carriage, and measured it, and had some Conversation (as they believed) with the Coachman who drove the State Carriage. They brought me back the Paper which I now produce, giving the Dimensions of the Carriage, which Dimensions were verified, and not being found to be quite correct, the true Dimensions were inserted in this Paper as they now appear.

278. Your Intention was at that Time to have landed the Queen upon the South Side of the Victoria Tower?

In the original Plan it was not intended to land at all in the Tower. There was an inner Hall proposed beyond the Tower, but the Landing was on the same Side as now arranged, namely, the North Side.

279. You intended the Horses to turn round and go out at the opposite Side of the Tower?

Before I reply to this Question I should wish to know which Plan your Lordship alludes to.

280. Take the Plan adopted by the Houses of Parliament?

The Plan adopted by Parliament had not the Column in the Centre of the Tower. In this, which is the Plan alluded to, it was proposed that the Carriage should pass through the Archway on the West Side to an inner Hall or Passage, and that the Sovereign should alight at the Foot of the Royal Staircase on the North Side. It is now proposed that the Queen should alight under the Centre of the Great Tower. The Plan of the Tower which I now produce shows the raised Landings, with a Curb on the outer Edges to direct and control the Course of the Carriage. The Opening or Entrance Gateway towards Abingdon Street is Twenty-two Feet. The Plan of the Carriage is represented as it would stand at the Period when the Sovereign would alight from it, immediately under the Centre of the Tower; and the Gateway or Passage by which the Carriage would draw off is immediately opposite, and in a direct Line with the entrance Archway.

281. What is the Width of this Passage?

The Width of the Passage is Eighteen Feet, but the Width of the Gateway Nine Feet Six.

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282. What is the Width of the Carriage?
The Section which I now produce shows the Form and Dimensions of the Archway, with a Sketch of the Carriage to a Scale within it. The Carriage I understand is Eight Feet One and a Half in Width.

283. Supposing the Carriage to be Eight Feet Three, there are Fifteen Inches to spare?
Yes.

284. That is Seven and a Half on each Side?
Yes, at the Top of the Wheels, but only just in the Gateway for a Length of Eight Feet.

285. Do you conceive that that is sufficient?
I should think it is sufficient, as it is only provided for the Carriage to draw off when empty.

286. Are you aware that Difficulty is felt at present in the Entrance to the House of Lords, which is Ten Feet Eight wide?
I was not aware of it, but am not surprised at the Difficulty of driving through the present Archway, as there are no Means provided to guide the Course of the Wheels; but there will be no Possibility of the Carriage getting out of the Track, according to the Arrangement proposed, as the intended Curbs on each Side of the Opening would effectually control the Course of the Carriage. The Length it would have to pass through the Archway in question is only Eight Feet.

287. Is something proposed to keep the Wheels fixed?
The Course of them would be controlled by the proposed Curbs. Allowing the greatest Latitude for the Swag of the Carriage, it could never, I imagine, oscillate more than Four Inches on each Side, and the Allowance on each Side is Fifteen Inches at the Top of the Carriage.

288. Would there be no Means of increasing the Width?
It might be increased, if it is thought desirable; but it appears to me to be abundantly sufficient.

289. The Arch is turned?
Yes, it is.

290. Are you aware what is the Length of the Carriage and Horses?
The Length of the Carriage, including the Pole, is Thirty-four Feet Three Inches. I am informed that the Carriage and Horses occupy a Length of Sixty-six Feet altogether.

291. Where do they come out into the Court?
At the South-west Angle. The Court is 120 by 80 Feet; but I should state that there are some Buttresses on the West Side which should be allowed for.

292. What is the Width of the Gateway into that Court?
The same as the Gateway in the Tower.

293. Is there sufficient Space?
In my Opinion there is. I believe the Carriage can turn with great Facility in a Circle of Sixty Feet.

294. Is it not the Practice with the Queen's Carriage that there is a Man with each Horse?
I believe it is.

295. If you take away the Man in this narrow Gateway will not the Horses prance?
There would in my Opinion be plenty of Room both for Horses and Men.

296. Would it be a very great Inconvenience to widen this Opening Three Feet?
Yes, it would. I think it would be possible to make the Opening Eleven Feet wide; but I imagine that with the proposed Arrangements for controlling the Course of the Carriage the present Space would be ample.

297. What Expense would be entailed by making this Eleven Feet wide?
I am not prepared to say, but I think not very considerable; perhaps 100*l.* or 150*l.*

298. Would it be attended with any Injury to the Appearance of the Arch?
I would rather that the Arch should remain as it is, for I think it has a better Effect with large Jambs than it would have were they reduced.

299. Supposing it was thought desirable, when the Queen was set down in the Doorway, to allow the Carriage to remain there, that she might get in on the Left Side of the Carriage, and that when taken up the Procession in returning should not proceed through Old Palace Yard, but coming through all the Courts of the House come round into New Palace Yard, are the Arches throughout the Building sufficiently wide to permit the Carriage to pass out?
They are the same in Width as the Tower Archway, namely, Nine Feet Six Inches throughout.

300. There are double Arches the whole Way, are there not?
No, not the whole Way. I should think the Course proposed would be attended with a little Risk, because there would be some Difficulty in controlling the Direction of the Carriage without producing Inconvenience in the Courts. If there should be any Difficulty in turning the State Carriage in the Royal Court, which I cannot for One Moment anticipate, that might be got over by the Carriage being drawn through the entire Length of the Building from the Royal Court to the Speaker's Court, and from the Speaker's Court into New Palace Yard, where it might turn, and come back again in an opposite Direction.

301. You object to widening this, and state that it would spoil the Arch?
The Archway would not look so well as it does at present.

302. As none of the Arches are wide enough for Two Carriages, what would be the Objection to laying this Tramway through the several Courts of the Building?
There would be no Objection, except that of creating an Inequality in the Level of the Pavements of the different Courts.

303. The present Arch to the House of Lords is Ten Feet Eight?
Yes.

304. The Length of that is greater than that of these Arches?
Yes. As the Archway in question is merely for the Purpose of enabling the Carriage to pass into the Royal Court, and to turn, I considered, if I made the Width of it sufficiently ample to avoid any Risk of Collision, that was all that was required, and that, I apprehend, is done.

305. There would be Five Carriages enter previous to the Queen's, which would have to get out of the Way previous to Her Majesty's Carriage entering?
Yes. There are other Courts into which, if necessary, they may go, and they might also pass completely through the entire Length of the Building, or they might pass through a Gateway on the South Side of the Royal Court to the open Space to the South of the Building.

306. You say that the Communication with the Master of the Horse's Department upon the last Occasion was between One of your own Clerks and your Son, and a Clerk in the Master of the Horse's Department?
Yes; and with the Coachman.

307. Do not you imagine it would have been better for you to have seen the Master of the Horse, and communicated personally with his Lordship?
As the Information I required was merely of a practical Nature, namely, as to the Form and Size of the Carriage, the Space in which it could turn, &c., I did not consider that Information to be of such a Nature or of sufficient Importance to warrant me in troubling the Master of the Horse himself.

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308. Do not you think that it would have been better, when giving your Evidence, instead of saying that you had seen the Master of the Horse, to have said that you had communicated with the Coachman?

I beg to say I did not state that I had seen the Master of the Horse, but that I had communicated with him, which, in effect, I did, through his Deputy and Secretary, Mr. Spearman, more than Five Years ago.

309. Did you see Lord Albemarle personally?

No, I did not.

310. How did you communicate with him?

On the first Occasion, as I have stated, through his Secretary, Mr. Spearman; on the last Occasion, by Application at the Office, when the Message brought to me by my Son, and the Clerk who accompanied him, was, that they had seen the Coachman himself, and obtained further Information from him.

311. You are aware that the Master of the Horse is responsible for the Safety of the Queen?

I conclude such to be the Case. I will take this Opportunity to state, that the Plan approved by Parliament exhibited a Gateway of less Width than the Gateway in question.

312. Can you state the Height and Width of the Windows of the House of Lords on each Side?

I cannot from Recollection, nor without reference to the Drawing.

313. They go near to the Ceiling?

They do.

314. So that there will be an immense Mass of Light?

Yes.

315. Supposing any painted Glass were admitted into them, such as that of the Armorial Bearings, which have been thought of, to fill up certain Parts, what Proportion of painted Glass would those cover as compared to the whole Window?

Perhaps to the Extent of Twenty per Cent.

316. Are the Armorial Bearings intended to be very large?

They need not be very large; they should be of a Size to fill up properly the Width of a Light.

317. You do not mean that Twenty per Cent. would be abstracted, but modified?

Twenty per Cent. of the Glass would probably be in Colour, and therefore the Light would be modified; only I should state, that without the Aid of stained Glass I think the House would be over-lighted.

318. With respect to the Robing Room; at present that is at the further End of the Victoria Gallery, is it not?

Yes; it need not, however, be so used if it should be hereafter thought unadvisable, for Provision is made for a Room that might be used as a Robing Room at the Throne End of the House, from which the Queen might enter the House very near to the Throne.

319. How is the Space where you proposed to make the Robing Room converted?

Partly by a Room called the Vote Office, which is unnecessarily large, and a Staircase, which is also larger than it need be.

320. What is the Vote Office for?

Merely for the Distribution of printed Papers to the Peers as they enter the House. The new Room proposed may be used for a Writing Room. There is another Room in the Front, towards Old Palace Yard, which is to be the Peers Robing Room.

321. With respect to the Staircase which the Queen is to come up, do you still remain of the Opinion that an unbroken Flight of Twenty-five Steps would be better than a Flight with a Landing Place in it?

For the Reasons I before stated, I should say that it would be better in One Flight;

Flight; but I have no strong Objection to the Proposal of a Landing (if that is your Lordship's Wish), to divide the Flight in Half.

322. The Queen will be landed rather higher than the proper Level of the Ground?
The Landing will be One Step above the Carriage Road.

323. How many Steps would there be in the first Flight?
Speaking from Recollection, I think there are Eight.

324. How is the Level to be arranged between the Street and where the Queen lands?
That is a Matter left for future Consideration.

325. It will be attended with Trouble, will it not?
It will, but it has been always presumed that some general Adjustment of the Levels of the surrounding Streets would be necessary.

326. Do you know the Level of Abingdon Street, as compared with the Base of Victoria Tower, where the Carriage will stand?
It would be nearly level.

327. The present Level of Abingdon Street is considerably higher than the Ground on which the Tower is to be, is it not?
It is higher, but not more than to the Extent of a Foot, I think, when the Ground Line is properly made up at the Tower.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned.

Die Jovis, 1° *Augusti* 1844.

The EARL OF SHAFTESBURY in the Chair.

Mr. THOMAS GRISSELL is called in, and examined as follows:

328. YOU are one of the Contractors for the Works?
I am.

329. What Part of the Building are your People employed about now?
On the River Front, on the House of Lords, and on the Clock Tower, and on the Buildings fronting Old Palace Yard.

330. What Part of the Buildings in the River Front?
The upper Part of the Tower and the Pinnacles.

331. Are you employed at the South End upon the Buildings; the Committee Rooms of the House of Lords, and so forth?
Upon the Roof.

332. Are you now employed upon the Roof of all the Part fronting the River?
Yes; except what we call the South Return.

333. Does the South Return contain the Committee Rooms of the House of Lords?
That connects itself with the Robing Room.

334. You have Persons employed upon that Part of the Building which is devoted to the Accommodation of the House of Lords as well as that which is devoted to the House of Commons?
We are not actually employed upon the House of Commons at the present Moment.

335. But upon the Committee Rooms and so forth attached to the House of Commons you are employed, are you not?
In the front Building.

336. Is there not more Work going on in the Building fronting the River North of the Centre than there is South of the Centre?
Perhaps, if there is any Difference, there may be rather more Northward than Southward, but very trifling. It is all going on at much about the same Speed. We have no particular Directions to proceed with one Portion of the front Building in preference to others.

337. You have not then received Instructions generally to proceed with particular Expedition with the Buildings connected with the House of Lords?
I hardly know which are the Buildings connected with the House of Lords.

338. The Buildings South of the Central Hall, the Libraries, and the Committee Rooms, and connecting Passages from the House of Lords itself to those Rooms?
We are proceeding with the connecting Passages between the House of Lords and the front Building.

339. Are you proceeding with the Victoria Hall?
We are.

340. There are Three Contracts going on, are there not?
There are Two Contracts; the River Front, and No. 5. Contract.

Mr. T. Grissell.

1st August 1844.

341. What is No. 5. Contract?
No. 5. Contract comprises the whole of the Buildings to the West of the River Front; namely, Victoria Hall, Victoria Gallery, the House of Lords, the Central Hall, the House of Commons, and the Front next Palace Yard.

342. Those are all included in One Contract?
Yes.

343. Have you received any Instructions to proceed with any one Part more expeditiously than another?
Some Weeks ago we received Instructions to proceed with the House of Lords in preference to any other Part, and we have proceeded rapidly with that, and are now putting on the Roof.

344. In the House of Lords do you include only the Building of the House of Lords, or do you include the Committee Rooms and other Places?
I am not aware which are the Committee Rooms appointed for the House of Lords.

345. Have you not seen the Plan?
I have not seen the Plan so as to discriminate which are the Committee Rooms of the House of Lords and which are the Committee Rooms of the House of Commons.

346. In short you have received no Instructions to perfect the Buildings necessary for the Transaction of the Business of the House of Lords in preference to all others?
Not beyond the House of Lords itself.

347. In pursuance of the Contracts you have entered into it would be just as convenient for you to have the Force which is now employed in Palace Yard employed on the Victoria Hall?
We have a Force employed upon the Victoria Hall.

348. But a much more powerful Force employed upon the Buildings in Palace Yard?
A more powerful Force, certainly.

349. It would be just as feasible for you to employ that more powerful Force at this End of the Building as at the other?
We can only employ a certain Number of Men upon each respective Portion of the Works; for instance, the Victoria Hall, we can only employ a certain Number of Men upon it. I do not mean to say that we could not employ a greater Number than at present, but certainly not the whole of the Force.

350. But it would be very easy to transfer the Two Strengths, so that the greater Strength should be employed at this End, and the smaller Strength at Palace Yard?
We have only increased the Strength in the Palace Yard in consequence of the Suspension of the Works at the Victoria Hall.

351. Why have they been suspended?
In consequence of certain Difficulties, I believe, in the Arrangements.

352. There would be no Difficulty in putting the whole Number of Men that you have now employed upon the South Side, leaving the North Side of the Building?
No; the whole could not be carried on at the same Time without Inconvenience to ourselves.

353. Would it not be possible to put on a greater Number of Workmen upon the South Side?
We intend to increase our Force as fast as we get the necessary Instructions and Details.

354. Are you delayed for Want of Instructions at present?
We receive our Instructions Day by Day.

355. Have you received Instructions to the Effect that you should put a greater Force upon the Buildings in the South Side of the Centre?
As we receive our Instructions we increase our Force.

356. Have

356. Have you received the working Plans for the Buildings connected with the House of Lords?
I do not know which are the Buildings alluded to.

357. Have you had the working Plans necessary to enable you to proceed as quickly as possible with the Portion of the Buildings connected with the House of Lords as shown on this Map?
We have Part of them; that is to say, for the Victoria Gallery, partially for the Robing Room, the Grand Staircase, the connecting Passage between the Victoria Gallery and the Front of the Building and the Rooms adjoining it, and also the connecting Passage between the House Lobby and the front Building and the Rooms on each Side of it, the connecting Passage or Corridor between the Central Hall and the Lobby of the House of Lords, and partially for the Passage between the Central Hall and the front Building.

358. Have you the Plans for the internal fitting up and finishing of the Building fronting the River, South of the Central Hall?
None whatever. That is not included in our Contract. Our Contract is merely for the Carcase.

359. And for the Vaultings?
Yes.

360. Would it not be extremely important, even supposing the Victoria Gallery was not finished, to finish the Wall at the End of the Victoria Gallery so far as to protect the House of Lords itself from Damp during the Winter?
It would be desirable. I understand it is intended to proceed with that immediately.

361. Is that included in the Contract?
In No. 5. Contract.

362. Have you been yet called upon with respect to any Contract for the Interior of the Building?
None whatever, except so far as respects the Interior of the House of Lords.

363. With respect to the Interior of the Buildings in the South Front, have you received any Instructions.
We have not.

364. Is the Ceiling of the House of Lords in your Contract?
It is nearly completed.

365. When will the Roof of the House of Lords be covered in?
In a few Weeks.

366. And when that is done the Ceiling will be put on immediately?
Yes.

367. Have you a Contract for wainscoting the House of Lords?
No.

368. Have you ever been checked in making the Progress which you might have done by the Want of the Details of the Plans as connected with the House of Lords, or by the Want of the working Drawings?
Some Months ago there was some Delay in consequence of the Want of Drawings, previously to the Time of my being examined on the last Occasion.

369. Did you apply to the Architect for them?
I did.

370. Did he give them to you directly, or was there a Delay?
He gave them immediately.

371. Since then have you gone on as fast as you could?
Your Lordships are aware that there has been for a considerable Period Cessation in the Works connected with the Royal Gallery. Several Months past the Works have been entirely stopped.

372. Why has that been?
I believe in consequence of some Communications between your Lordships and Mr. Barry. That applied to the whole of the Works South of the House of Lords.

Mr. T. Grissell.
1st August 1844.

373. But you might have gone on with the House itself?
We did not stop the House of Lords.

374. Is the Floor of the House of Lords in your Contract?
We have not received Directions for that yet.

375. Are the Archings under the House in your Contract?
They are; but they are not proceeded with yet.

376. And they will not be till the Interior is further advanced?
No.

The Witness is directed to withdraw.

Mr. F. H. Grove.

Mr. FREDERICK HUMPHREY GROVE is called in, and examined as follows:

377. YOU are Clerk of the Works under Mr. Barry?
Yes.

378. What are the Contracts you are at work at now in the Buildings belonging to the House of Lords?
The Roof is the main Portion of it, and the Ceilings.

379. What are you doing to the Libraries and Committee Rooms of the House of Lords?
There is nothing at the present Moment going forward in the Committee Rooms.

380. Nor the Libraries?
No.

381. Are the working Drawings ready for the Committee Rooms?
No.

382. Are any Drawings prepared for the internal Fitting of the River Front South of the Central Hall?
No. Mr. Barry has them under his Consideration, and is giving them every possible Attention at this Moment.

383. Will it not require another Contract to be made before those Works can be commenced?
I presume it will; though I do not feel empowered to answer exactly.

384. You know that they are included in no Contract yet?
No.

385. Do you know whether it is Mr. Barry's Intention to have a Contract for the whole Works of the internal finishing with Messrs. Grissell and Peto?
I do not.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Tuesday next, Twelve o'Clock.

Die Martis, 6° Augusti 1844.

The EARL OF SHAFTESBURY in the Chair.

CHARLES BARRY Esquire is called in, and further examined as follows:

[The Witness produces several Plans.]

386. DO you now produce a Plan of the Building as now being executed?
I do. (*Producing the same.*)

387. There appear certain dotted Lines enclosing a Court in front of New Palace Yard, being a Continuation of the Clock Tower, and dotted Lines at Right Angles with those along Parliament Street; what is the Meaning of those Lines?
The Meaning of those Lines is a Proposition merely for enclosing New Palace Yard. It is no Part of the Plan approved by Parliament.

388. Is the Western Side of the Clock Tower prepared so as to admit of a Continuation of this Plan, in the event of its being approved of by Parliament?
The Western Side of the Clock Tower is prepared either for the Addition proposed or to be finished as originally intended.

389. With an extra Expense, of course?
With a trifling extra Expense if it has to be faced.

390. That Facing was comprehended in the original Estimate?
Yes.

391. But it would be an additional Expense in the Mode of building it?
Yes.

392. You would be building it twice in fact?
Not exactly so. Bond Stones are built into the Wall for the Purpose of securing the future Ashlar, if it should be determined to finish the Side of the Clock Tower as was originally intended; the only extra Expense that would be incurred by not doing it at present will be the Removal of about Nine Inches of Brickwork, leaving the Bond Stones as Part of the future Fabric, and inserting the Ashlar in lieu of the present Brick Facing.

393. Have you formed any Estimate of the Expense of the extra Work?
None whatever; but it will be trifling.

394. What Use was it intended to apply this new Court to?
Various Uses have been proposed. One was an Extension of Accommodation for the Law Courts, in case of their being rebuilt.

395. Would it not involve, as of Necessity, the Purchase and the levelling of the Houses in Palace Yard?
Unquestionably.

396. There has been no Estimate given of any Proportion of that Work, nor any Money voted, nor any Authority given for it?
None whatever. I believe Authority is given by the Treasury to purchase the Houses as the Leases may fall in. The Government is now about to purchase one of them, namely, the Hotel at the End of the Bridge.

397. What Diminution of Width would this Projection make in that End of Margaret Street?
The Diminution of Width would be determined by the Boundary on the opposite Side of the Street, which is not a fixed Boundary. There need not necessarily be any Diminution in Width.

 398. Must

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398. Must it not be a fixed Boundary, unless the Plan, in the first instance, presupposes the Removal of St. Margaret's Church? Does not St. Margaret's Church make it necessarily a fixed Boundary?
To a certain Extent it does.

399. What is the Breadth from the new Buildings to the Back of St. Margaret's Church?
About Sixty-two Feet from the proposed new Front, as indicated by the dotted Lines upon the Plan now before the Committee.

400. What is the present Breadth from the Stone Front of the Parliamentary Buildings to St. Margaret's Church?
About Eighty-eight Feet.

401. In this Plan you have now placed the Peers private Lobby at the End of the Victoria Hall, between that and the House of Lords?
Yes; that is a Deviation which has been recently sanctioned by the Government.

402. To be lighted from above?
Yes.

403. Above the Corridor?
Yes.

404. Would that be a Room with sufficient Light in it?
I imagine it will.

405. In that Case would it be available as a Reading Room?
It might be available, but I should not consider it a very convenient Room for that Purpose, as it would be a Passage Room from one Side of the Building to the other.

406. This Entrance on the Western Side of St. Stephen's Porch is in contemplation of the Alteration you here propose, enabling you to get rid of the Entrance on the South Side?
It was always intended there should be an Entrance in this Direction. According to the original Proposition, a Portion of the present Stone Building was to be removed, and an Entrance provided here as shown.

407. What Extent of Roofing is already executed in the Building?
No Part of the Roof is yet completed, but the Extent of the Building which is now being roofed is the River Front and the House of Lords.

408. Is the Contract made for the Roofing?
A Contract is made for that Portion of the Roofing only.

409. At what Time was that Contract for the Roofing made?
I am not able to state the Date.

410. Can you state the Year?
It was in the course of last Year; that is for a Portion of it.

411. At what Time in last Year was the Commencement of the Roofing Operation?
On the 28th December.

412. How far is it in progress now?
The Parts I have alluded to are advanced very considerably. The Framing of the Roof of the River Front, that is, the centre Portion and the Curtains, is completed. Those Portions of the Roof are now being covered with the Plates.

413. When do you conceive that the Portion of the Roof on which they are at present engaged, and for which Contracts have been executed, will be finished?
I should think within about a Month or Six Weeks from this Time. I allude simply to the River Front. I do not say that the House of Lords will be completed by that Time.

414. The

414. The Committee Rooms?
Yes; I allude to those Portions of the Buildings where the Committee Rooms are situated.

415. Do you not consider it of great Importance to the future Stability of the Work, and to its rapid Completion in the course of next Year, that it should not be exposed to the Weather during the Winter?
It is most desirable that it should not be exposed at that Period.

416. In the further Prosecution of these Works what Steps have been taken now with respect to the internal Fittings of the Committee Rooms for the House of Lords?
I have not any Orders whatever for the internal Fittings of any of the Committee Rooms.

417. Are there any Drawings made?
I have had no Orders whatever to prepare Drawings for them.

418. Have you formed any definite Plan as to the Mode in which they are to be fitted up; whether with Wainscot or Plaster?
Generally with Wainscot. The Walls being plastered; the Ceilings being generally of Wood.

419. Do you wait for Instructions from the Office of Woods to prepare Plans for the interior Arrangements of the Building?
Yes.

420. Were you directed by the Office of Woods to prepare Drawings for the Finishings of the House of Lords?
No.

421. Then why do you wait for Instructions now?
Because I think it better, after the late Misunderstanding as to Authorities, not to proceed without Authority in any thing.

422. That has been only for a few Months?
For a considerable Time; ever since this Committee first sat.

423. Have not the Drawings for the House of Lords been prepared since this Committee first sat?
Yes; for the Use of the Committee.

424. The whole of them?
The whole of such as are prepared for the Purpose alluded to.

425. You do not mean to prepare any Plans for the fitting up of the Committee Rooms till you have Instructions from the Office of Woods?
I think it right not to do so.

426. The Question refers distinctly to the Preparation of Plans; not to the Execution of new Works. Do you adhere to the Answer that you have given?
I think it better, in the finishing of the Building, that I should have Authority from the Government as to those Portions of the Building which are to be finished first; under those Circumstances I should think it unwise to prepare any Plans until I have such Authority.

427. You have been told by the Committees of both Houses that it would be extremely desirable to have the Committee Rooms proceeded with as fast as possible, have you not?
I am not aware that I have.

428. Did you not know that it was the Desire of both Houses that the Committee Rooms should be finished as quickly as possible?
I happen to know that it is the Wish of individual Members of both Houses that the Committee Rooms should be finished first.

429. Have you any Mode of collecting what the Desire or Wish of the Committee is, beyond their Reports?
No; not as Committees.

C. Barry, Esq.

6th August 1844.

430. Had you any Doubt in your own Mind that it was extremely desirable?
I would rather not answer that Question in the Way it is put. I have a Doubt of it as regards the further Progress of the Building.

431. You never applied to the Office of Woods for Instructions upon that Subject?
No; as I have not been requested to do so. I have represented to the Office of Woods the Wishes of this Committee as to getting into the House of Lords; but up to the present Time I have not had any Authority to proceed with either temporary or permanent Fittings.

432. If you understood that it was very desirable that Six or Eight Committee Rooms should be ready for Use by next Session, after Easter, could they be got ready?
The Time is short. They could not be permanently finished. That is out of the Question.

433. You have stated that you contemplate Wooden Ceilings. Do you mean decorated Ceilings?
I mean Ceilings with moulded Ribs.

434. Do you contemplate the fitting up of those Rooms in any Style of Decoration beyond the most entire Simplicity?
It would be difficult to define what may be said to be entire Simplicity. All that I contemplate is to fit up the Rooms in character with the Building generally.

435. Is the Ceiling to be of Wood or of Plaster?
I propose that the Ceilings generally should be of Wood; I do not say universally.

436. The House of Lords is put to very great Inconvenience this Year for Want of Committee Rooms; it is very desirable, therefore, that we should know what Number of Committee Rooms you could get ready in the new Buildings, so as to be accessible next Year by about the End of May?
Five or Six Committee Rooms might be prepared in a temporary Manner, but the Occupation of them would be attended with Inconvenience and Delay in the future Progress of the Works.

437. Were you not asked that Question in the Committee of the House of Commons?
Yes.

438. Do you recollect what your Answer was?
I believe my Answer was, that it was possible to get a certain Number of Committee Rooms ready in a temporary Way, but that I should not recommend it.

439. You have stated that you feel that it is better not to proceed even with the Drawings for these Portions of the Work until you get Instructions from the Government. In your former Evidence you stated, that you conceived that under your general Powers you had Authority for certain Deviations from the Plan itself, provided it did not involve, as you conceived, an Alteration of the main Features of the Plan. You are acting now upon a different Principle from that upon which you previously acted?
In consequence of recent Misunderstandings I am anxious in future to act entirely upon Authority, both as to the Preparation of the Plans, and as to the Portions of the Buildings which are to be finished first; in fact, to take the Directions specifically of the Government upon every Point.

440. Those Instructions being communicated to you by the Woods and Forests?
Yes.

441. It is under the Woods and Forests that you consider yourself now to be acting, and subject to their Authority?
Yes. The Plan now on the Table, being now the authorized Plan, and signed by the Chief Commissioner of the Woods and Forests, I shall not make any Alteration either in the Principle or Detail of that Plan, except by express Authority.

442. No

442. No Suggestion, therefore, coming from any mere Parliamentary Authority, such as Officers of the House, will be attended to?
No.

443. Would any Suggestion made to you by the Commissioners of Fine Arts, unless made with the Sanction of the Commissioners of Woods and Forests, be, in your Mind, of sufficient Authority to induce you to alter or to suspend or to vary your Proceedings?
Certainly not.

444. Has any Alteration been made at their Suggestion?
None whatever.

445. You have spoken of those new Rooms, which you have described as being lighted from above; are there any that are to be lighted with Lights from the Ceiling?
None whatever. I object, upon Principle, to all Skylights.

446. Yours will be all Side Lights?
They will be Lights in the Walls, but near the Ceiling.

447. In this Plan you have done away with the Passage at the Back of the Throne?
In this Plan the original Space which is termed a Passage is shown to be enlarged into a Lobby of ample Dimensions.

448. If it had remained that Passage would have been a Means of Communication from one Side of the House to the other, without going through the Lobby?
Yes; but the proposed Lobby would be considerably reduced in Size by such an Arrangement.

449. With reference to these Plans, which are now the approved Plans, and to which we look for the ultimate Completion of the Work, has any Estimate been formed of what the Expense of the Execution of these Plans will be?
Yes.

450. How much is it?
For the Building only, 873,011*l.* 3*s.* 1*d.*, exclusive of the Cost of the River Wall, and of other miscellaneous Expenses.

451. Does that comprehend the Expenses of the internal Fittings?
To a certain Extent it does.

452. To what Extent?
To the Extent of ordinary Joiners Work, without any great Amount of Decoration.

453. Does it comprehend whatever may be wanted for the Fittings-up of the secondary Portions of the Building; the Committee Rooms, and Passages and Places of that Description?
Yes, in a plain and simple Way.

454. So that every thing beyond that plain and simple Way will be Matter of extra Expense and extra Estimate?
It will.

455. For instance, reverting to your Description of the Fittings-up of the Committee Rooms, does your Estimate comprehend the Wooden Ceilings you have described?
Unquestionably, but without Decoration.

456. Do you conceive that any Decoration whatever is necessary or expedient with respect to those Portions of the Building?
I think Decoration to a certain Extent is desirable, for the sake of Harmony with the rest of the Building.

457. To secure an harmonious Conformity with the Building generally; but does that harmonious Arrangement involve any expensive Decoration?
Not necessarily.

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458. Does it involve any Decoration beyond the Amount which you contemplate as being included in the Estimate?
Yes. I should say that if the Ceilings are painted or gilded, or enriched with Heraldry, or if there should be much Carving about the Bosses; if the moulded Ribs were to terminate in expensively carved Pendants of rich Design; all that would be certainly an Excess upon the original Estimate.

459. But, with the Exception of the Houses of Parliament themselves, and the main and beautiful architectural Features of the Plan, and possibly the Libraries, do you conceive that any Species of ornamental Decoration is either required or would be fitting for the greater Proportion of those Buildings?
Generally speaking, I should say that, with the Exception of those Portions of the Building, it would not be required.

460. With respect to the internal Arrangements of the auxiliary Offices, for example, the House of the Black Rod, do you contemplate any internal decorative Arrangements that will be productive of extra Expense?
I have not considered the Subject as to the Decoration of that House in detail, but the Cost of any extra Decorations of it is not included in my Estimate.

461. Still less do you contemplate any extra Decoration in the Accommodation which is provided in the various Offices of the House?
I do not contemplate any there beyond what is included in the original Estimate.

462. Before you gave in that Estimate you of course made some Drawings of the Plan and Mode of fitting up of the several Apartments?
Yes.

463. Are they forthcoming?
They might be.

464. In proportion as there might be more or less of elaborate Decoration, and as that was extended over different Apartments, would not the Time required for the ultimate Completion of the Building be considerably increased?
According to the Amount of extra Decoration the Time for Completion would unquestionably be increased; but the Time for Occupation need not necessarily be increased, because a Portion of those Decorations might be added from Time to Time during the Recesses of Parliament.

465. Could you state from the Plans which are before you which are the Portions of the Building which you consider to be fitly the Subject of decorative Ornament, and of elaborate Ornament, exceeding the Amount of the present Estimate, and which were not included within the present Estimate?
See p. 61.
In answer to that Question, I beg to refer to a Report which I made to the Commissioners of Fine Arts in which those Parts are mentioned.

466. Can you state it generally?
Generally, I should say, the Two Houses, the Victoria Hall, the Queen's Robing Room, the Conference Hall, and the Libraries.

467. Including some of the main Passages?
I have been alluding merely to the principal Rooms. There are also the principal Approaches, which I think are quite open to extra Decoration, and those would be, Westminster Hall, St. Stephen's Hall, St. Stephen's Porch, and the Central Hall, the public Corridors leading to each House, and the Lobbies of each House.

468. You have stated those Portions of the Building as being susceptible of increased decorative Ornament?
Yes; a greater Amount of Decoration than has been provided for in the original Estimate.

469. Do

469. Do you consider that those are Parts which are not only suitable for that increased Decoration, but for which that increased Decoration is required?

I think it is required, in order that those Portions of the Building may be in harmony with the Character of the Work generally.

470. You have stated Westminster Hall; should you propose to make any Alteration of any Kind whatever in Westminster Hall?

I should propose that the Walls of Westminster Hall should be covered with Fresco Paintings.

471. But you do not contemplate any architectural Change in Westminster Hall, either externally or internally?

Externally I do; not internally. But externally I contemplate an Addition of a Porch at the South End of Westminster Hall, and the Assimilation of the Elevation of the Front towards New Palace Yard with the rest of the Building.

472. Not an Assimilation of that Front to the old Front, but an Assimilation of it to bring it into harmony with the new Building?

Exactly so.

473. When do you expect to have the Roof put upon the House of Lords?

The Framing of the Roof of the House of Lords is already upon the Walls; the Covering of that Framing will commence immediately.

474. When do you expect that will be completed?

I think it might be completed in about Six Weeks or Two Months.

475. Do you anticipate that it will be completed before the Winter sets in?

Yes; I have very little doubt about it.

476. You consider the Completion of that before the breaking of the Weather to be of considerable Importance?

Yes.

477. Do you think the Roof over the House Lobby will be finished before the Winter?

I think that is questionable.

478. Will the Roof over the Peers Private Lobby be completed before the Winter?

I should say not.

479. Would it not be very desirable to get the Roof over those Two Portions completed, in order to keep the Two end Walls of the House dry during the whole Winter?

I do not think it a Matter of very great Importance, but I do not mean to say that it would not be advantageous.

480. Have you any particular Reason for that?

My Reason is, that in this Portion of the Building, which is called the Peers Private Lobby, at the Back of the House, the Walls of which are not yet carried up, it is sheltered by the surrounding Building.

481. What Height do you mean to carry them?

To the Height of the East and West Walls of the House of Lords.

482. Are not those Brick Walls for the greatest Part of their Height?

They will be principally of Brick, with the Exception of certain Doorways, which will be of Masonry.

483. Internal Work?

Yes.

484. Much of which is already prepared, is it not?

Not a great deal, because that is a Portion of the Building which has been subjected to Alteration?

485. There is no Difficulty in executing that Work to any Amount in a short Space of Time, is there?

A certain Amount of Time is necessary to do the Work required in a proper and satisfactory Manner.

486. Is there not an enormous Number of Labourers in London who can do that Work?

Not Labourers, in the strict Sense of the Word, but Mechanics.

 487. When

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487. When do you expect that the Corridor Communications on each Side, between the House of Lords and the Front Buildings, will be all covered in?

The Corridor Communication between the Peers Private Lobby and the Libraries will, I imagine, be covered in by the Winter.

488. The Corridor from the House Lobby to the Peers Committee Rooms, will that be covered in by the Winter?

It is rather doubtful whether that will be covered in by the Winter.

489. If considerable Exertion were made, do not you think it would be possible to cover in both the Peers House Lobby and the Corridor leading from that to the Committee Rooms and the Peers Private Lobby, with the Corridor leading from that to the Libraries, before Winter?

I think it is possible, by great Exertion, that it might be done.

490. When you speak of the Uncertainty of Time at which the covering in can take place, what are the Causes of Delay which render it uncertain where the Walls have been carried up to their proper Height?

Where the Walls have been carried up to their proper Height there is no Reason whatever why the Roof should not be immediately put on; but in those Portions of the Building that have been alluded to the Walls have not been carried up to their proper Height.

491. In the River Front?

In the River Front there is no Reason why the Roof should not be completed immediately.

492. With respect to the House of Lords, are not the Walls carried up?

They are, and the Roof will be completed out of hand.

493. Has there been any Delay in putting on the Roof in Portions of the River Front since last Year that has been connected with any Difficulty in executing the Contract or furnishing Materials for it?

There have been Delays occasioned by Difficulties in the Process of zincing. In the first instance, the Manufactory was small, and the Company could not do any very great Quantity of Work in consequence. Recently the Manufactory has been enlarged to a very considerable Extent, and the Means of doing the Work are very considerably increased.

494. Where are those Plates manufactured?

The Iron Plates are cast at Birmingham. There are Zinc Works in the Neighbourhood of Birmingham, where I believe it is intended by the Contractors in future to zinc those Plates; but there is another Manufactory at Mill Wall, belonging to the Company, where most of the Work which has been supplied for this Building has been zinced.

495. Has a Roof of that Nature been erected in England in any other Place?

Not in England, to any great Extent; principally in France.

496. Where has it been used to any Extent in England?

Merely in covering Sheds and Outbuildings. I am not aware that it has yet been applied to any public Buildings or Dwelling Houses of Magnitude.

497. Have you, in respect of the Cases in which it has been used in England, any such Length of Experience with reference to our Climate as enables you to feel confident of its Success?

Not in England.

498. Where has it been used in France?

In Paris.

499. Has it been used in Paris to any considerable Extent?

To a very considerable Extent.

500. During any considerable Portion of Time, so as to give any Experience of it?

Yes. The Opera House has been covered now about Five Years, and the

Report

Report I have of the State of the Roof is that it is perfect, and in all respects exactly in the same State in which it was when it was put on.

501. There is no Difference in Climate or in atmospheric Influences which you think would produce a different Effect here?

I am not prepared to say that; but I should not imagine there would be any Difference in the Climate of this Country that would affect it.

502. Do you consider that any special Protection would be desirable against the Effect of Lightning with regard to these Iron Roofs?

None, beyond the ordinary Protection of electric Rods, or other Means that would supersede the Necessity of electric Rods, namely, the Rain-water Pipes of Iron which are connected with the several Roofs.

503. Have you taken any Steps with regard to the Provision of Conductors for different Parts of the Building?

Not at present, because I consider that the Rain-water Pipes are sufficiently good Conductors.

504. Would it not be desirable that there should be special Conductors connected with all the great Towers?

I think it would.

505. And it is very desirable that the Conductors should go some Depth into the Ground?

It is desirable that they should be made perfect, and either go into the Soil or dip into Water.

506. Do you remember what Time you stated that the Work would be finished when your Plan was first adopted by the Government in 1836?

I think I stated that it would be completed in about Six or Eight Years.

507. In what Time do you now think it will be completed?

I would rather not answer that Question, as I have hitherto been so much deceived, owing to the unusual Magnitude of the Work, and the vast Amount of Detail and Intricacy of Arrangement, independent of the various contingent Circumstances that have impeded its Progress.

508. You have not in fact considered that Question with a view to give any definite Answer?

I have not.

509. Supposing the Peers to be absolutely in want of Accommodation, do you consider that it is impossible to afford the House of Lords proper Accommodation in your new Building, according to the Plan now before you, by the Month of March next?

If the Question relates to the permanent finishing of the House of Lords, I should say that it was utterly impossible.

510. Do you mean the permanent Finishing of the ornamental Work belonging to your Work as an Architect, or do you refer to the internal Fittings?

I allude to the Fittings usually comprised in the Architect's Department, that is, the Wainscoting and the Joiner's Work generally.

511. What Part of the Work do you think it would be impossible to finish by that Time?

The Wainscoting and Fittings generally.

512. The internal Fittings, but not the outward solid Work?

I allude to the internal Fittings specially.

513. Do you suppose that a considerable Portion of those Fittings could be prepared by that Time?

I do not think it would be a prudent Course to fix any Portion of those Fittings.

514. When you say prudent do you mean with reference to eventual Economy or to the Safety and Health and Comfort of the Peers?

In the first place it would be impossible to prepare the Work in the Time, and if prepared the Season of the Year would render it extremely imprudent to fix it by the Time mentioned.

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515. With regard to the Month of April, do your Answers equally apply to that Period?
I should say they do.

516. Or to the Month of May?
I cannot pledge myself.

517. Is there any definite Period at which you could state that it might be done?
As the Matter does not altogether depend upon my own Exertions I feel a great Reluctance in making any Promises.

518. Such an Answer might apply equally to the commonest House undertaken by an Architect in any Part of London, might it not?
Yes, to a certain Extent. My Opinion is that the Fittings cannot be completed so that the House may be occupied next Year.

519. In 1836 you stated that the Houses could be completed in Seven Years from the Time of the Foundations being laid?
That might be the Opinion which I then entertained.

520. But you do not think now, after Eight Years, that One Half, or a little more (if at all more) than One Quarter, of the Building can be completed within a Year from this Time?
I am not prepared to answer that Question.

521. Then you do not entertain that Opinion?
I do not entertain the Opinion that the Portion of the Building alluded to will be completed within a Twelvemonth.

522. In the Examination of Mr. Grissell it appears that he stated that all the Work is going on at much about the same Speed. He says, "We have no particular Directions to proceed with one Portion of the front Building in preference to others." Is that the Case?
It is.

523. Then there is no Direction given with respect to any earlier Completion of the Building connected with the House of Lords than of the other Buildings connected with the Houses of Parliament?
I have had no special Directions from the Government to complete the House of Lords within any given Period, but I am hurrying on that Portion of the Work in deference to the Wishes of this Committee.

524. Your Answer applies solely to the House of Lords itself, and not to the new Committee Rooms and auxiliary Buildings?
Until the present Moment I have not heard any Complaint from this Committee of the Want of Committee Rooms in the House of Lords.

525. Mr. Grissell was asked, "You have not then received Instructions generally to proceed with particular Expedition with the Buildings connected with the House of Lords?" He says, "I hardly know which are the Buildings connected with the House of Lords;" and those being explained to be the Buildings South of the Central Hall, the Libraries, the Committee Rooms, and the connecting Passages, he states, "We are proceeding with the connecting Passages between the House of Lords and the front Building." Is there any additional Speed given to those Buildings connected with the House of Lords, namely, the Passages, the Victoria Hall, and the Approaches to the House of Lords, as compared with other Portions of the Parliamentary Buildings?
No. Part of the Building, the House itself, is being accelerated; the Lobby also, as being necessary for the Occupation of the House, is being accelerated; but those are the only Portions as to which specific Instructions have been given to accelerate the Work.

526. Do you think the House of Lords will be capable of being used for the Purposes of Legislation, unless the Approaches and auxiliary Buildings are carried on at the same Rate of Despatch?
I think it would be possible, although not desirable, that the House alone should be occupied, in connexion with the present temporary Accommodation.

527. Would

527. Would there be any Provision made in that Case for the heating and Ventilation of the new House?

I am not able to answer that Question. The heating and Ventilation is not in my Department.

528. So that when you contemplate finishing the House of Lords for the Purpose of Occupation, that is wholly irrespective of any Provision either for its Ventilation or its heating?

Yes, except as regards the Provision of Flues that it is necessary to make in carrying up the Walls of the House; beyond that I have nothing whatever to do with the Direction of the Ventilation.

529. Do you think that such Provision would be made at the Time of your contemplated Completion of the House of Lords for the Occupation of that Branch of the Legislature as would admit of its being occupied?

I would rather that Dr. Reid should be asked that Question.

530. Have you not lately had some Communication from Dr. Reid with regard to allowing a greater Space between the Roofs of the Arches under the House of Lords and the Floor of the House than was at first contemplated?

Yes.

531. The Effect of that would be to render the Arches under the House of Lords too low to admit Carriages?

Certainly.

532. Would it not render them too low to admit Horses?

I think it would, conveniently.

533. What Space was proposed before to be left between the Arches and the Floor of the House?

In the Centre of the House, I think, about Four Feet Six; at the Sides of the House, as the Seats rise, the Height would have been greater.

534. With that Alteration in the Form of the Arches that you before contemplated, could not there be a Passage left over the Piers of particular Arches sufficient to allow of Parties walking through that Space upright without reducing the Height of the Arches to the Extent now proposed?

Such Provision could be made, but I do not think it would be satisfactory to Dr. Reid.

The Witness is directed to withdraw.

EXTRACT from Mr. BARRY'S REPORT to the COMMISSIONERS for encouraging the FINE ARTS in connexion with the building of the new Houses of Parliament, referred to in his Evidence, p. 56.

Westminster, 22d February 1843.

WITH reference to the Interior of the new Houses of Parliament generally, I would suggest that the Walls of the several Halls, Galleries, and Corridors of Approach, as well as the various public Apartments throughout the Building, should be decorated with Paintings having reference to Events in the History of the Country; and that those Paintings should be placed in Compartments, formed by such a suitable Arrangement of the architectural Design of the Interior as will best promote their effective Union with the Arts of Sculpture and Architecture. With this view I should consider it to be of the utmost Importance that the Paintings should be wholly free from Gloss on the Surface, so that they may be perfectly seen and fully understood from all Points of view. That all other Portions of the plain Surfaces of the Walls should be covered with suitable architectonic Decoration or diapered Enrichment in Colour, occasionally heightened with Gold, and blended with Armorial Bearings, Badges, Cognizances, and other heraldic Insignia, emblazoned in their proper Colours. That such of the Halls as are groined should have their Vaults decorated in a similar Manner, with the Addition occasionally of Subjects or Works of Art so interwoven with the diapered Ground as not to disturb the Harmony or the Effect of the architectonic Decorations generally, or interfere with the elementary Features of the architectural Composition. That such of the Ceilings as are flat should be formed into Compartments by moulded Ribs, enriched with carved heraldic and Tudor Decorations. That these Ceilings should be relieved by positive Colour and Gilding, and occasionally by Gold Grounds with

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Diaper Enrichments, Legends, and heraldic Devices in Colour. That the Screens, Pillars, Corbels, Niches, Dressings of the Windows, and other architectural Decorations, should be painted to harmonize with the Paintings and diapered Decorations of the Walls generally, and be occasionally relieved with positive Colour and Gilding. That the Door Jambs and Fire-places should be constructed of British Marbles, of suitable Quality and Colour, highly polished, and occasionably relieved by Colour and Gilding in their Mouldings and sculptural Enrichments.

That the Floors of the several Halls, Galleries, and Corridors should be formed of encaustic Tiles, bearing heraldic Decorations and other Enrichments in Colours, laid in Margins and Compartments, in combination with polished British Marbles; and that the same Description of Marbles should also be employed for the Steps of the several Staircases.

That the Walls, to the Height of from Eight to Ten Feet, should be lined with Oak Framing, containing Shields with Armorial Bearings emblazoned in their proper Colours, and an Oak Seat should in all Cases be placed against such Framing. That the Windows of the several Halls, Galleries, and Corridors should be glazed doubly, for the Purpose of tempering the Light and preventing the direct Rays of the Sun from interfering with the Effect of the internal Decorations generally. For this Purpose the outer Glazing is proposed to be of ground Glass, in single Plates, and the inner Glazing of an ornamental Design in Metal, filled with stained Glass, bearing Arms and other heraldic Insignia in their proper Colours; but so arranged as that the Ground, which I should recommend to be of a warm yellowish Tint, covered with a running Foliage or Diaper, and occasionally relieved by Legends in Black Letter, should predominate, in order that so much Light only may be excluded as may be thought desirable to do away with either a garish or cold Effect upon the Paintings and Decorations generally. Practically, I consider that the double Glazing will be of essential Service in carrying out the System of warming and ventilating proposed to be adopted in the Building generally; which System renders it unnecessary that the Windows in those Portions of the Building above referred to should be made to open, so that all prejudicial Effects upon the Paintings and other Decorations which might be caused by the Dampness and Impurity of the Atmosphere, and much practical Inconvenience and probably Unsightliness in the Means that would be necessary to adopt for opening and shutting Casements would be avoided.

That, in order to promote the Art of Sculpture, and its effective Union with Painting and Architecture, I would propose that in the Halls, Galleries, and Corridors Statues might be employed for the Purpose of dividing the Paintings on the Walls. By this Arrangement a rich Effect of Perspective and a due Subordination of the several Arts to each other would be obtained. The Statues suggested should in my Opinion be of Marble, of the Colour of polished Alabaster, and be raised upon lofty and suitable Pedestals, placed close to the Wall in Niches, surmounted by enriched Canopies; but the Niches should be shallow, so that the Statues may be as well seen laterally as in front.

The architectural Decorations of these Niches might be painted of such Colours as will give the best Effect to the adjoining Paintings, being relieved in Parts by positive Colour and Gilding; and the Backs of them might be painted in dark Colours, such as Chocolate, Crimson, or Blue, or they might be of Gold, for the Purpose of giving effect to the Statues.

Having thus described the Views I entertain as to the Character of the Decorations of the Interior generally, I now proceed to notice in detail the special Decorations and Arrangements which I would propose for the several Halls, Galleries, and principal Apartments.

Westminster Hall.

I would propose that Westminster Hall, which is 239 Feet long, 68 Feet wide, and 90 Feet high, should be made the Depository, as in former Times, for all Trophies obtained in Wars with Foreign Nations. These Trophies might be so arranged above the Paintings on the Walls and in the Roof as to have a very striking and interesting Effect.

I would further suggest that Pedestals, 20 in Number, answering to the Position of the principal Ribs of the Roof, should be placed so as to form a central Avenue, 30 Feet in Width, from the North Entrance Door to St. Stephen's Porch, for Statues of the most celebrated British Statesmen whose public Services have been commemorated by Monuments erected at the public Expense, as well as for present and future Statesmen whose Services may be considered by Parliament to merit a similar Tribute to their Memories.

The Statues (26 in Number) which have been already proposed to be placed against the Walls between the Pictures, I would suggest should be those of Naval and Military Commanders.

The Subjects of the Paintings on the Walls, 28 in Number, 16 Feet in Length and 10 Feet in Height, might relate to the most splendid warlike Achievements of English History, both by Sea and Land, which, as well as the Statues that are proposed to divide them, might be arranged chronologically.

To give due Effect to these suggested Decorations it is proposed that the Light should be considerably increased by an Enlargement of the Dormer Windows in the Roof, by which also that extraordinary and beautiful Piece of decorative Carpentry of the Fourteenth Century may be seen to much greater Advantage than has ever yet been the Case.

This

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This noble Hall, certainly the most splendid of its Style in the World, thus decorated by the Union of Painting, Sculpture, and Architecture, and aided by the Arts of Decoration as suggested, it is presumed would present a most striking Appearance, and be an Object of great national Interest.

St. Stephen's Hall.

I would suggest that this Hall, which will be 90 Feet long, 30 Feet wide, and 50 Feet high, and have a Stone-groined Ceiling, should be appropriated to the Reception of Paintings commemorative of great domestic Events in British History, and Statues of celebrated Statesmen of past, present, and future Times. The Paintings may be Ten in Number, 15 Feet long and Ten Feet high, and 12 Statues would be required as a Frame to them. In the upper Part of the Hall 30 Niches will be provided for Statues of eminent Men of the Naval, Military, and Civil Services of the Country.

The Central Hall.

This Hall will be an Octagon of 60 Feet in Diameter and 50 Feet high, covered with a groined Ceiling in Stone. As each Side will be wholly occupied by Windows and arched Openings of Access Paintings cannot form any Part of its Decoration. It may, however, with good Effect, be extensively decorated with Sculpture. In the Centre of the Pavement might be placed a Statue of Her present most Gracious Majesty, upon a rich Pedestal of British Marble, highly polished, and relieved in Parts by Gold and Colour. The Niches in the Walls and Screens might be filled with Statues of Her Majesty's Ancestors, in chronological Order, even up to the Period of the Heptarchy. In front of the Eight clustered Pillars in the Angles of the Hall might be placed with good Effect sedent Statues of some of the great Lawgivers of Antiquity.

The Victoria Gallery.

This Gallery will be 130 Feet long, 45 Feet wide, and 50 Feet high, with a flat Ceiling, and will admit of both Paintings and Sculpture. The Subjects of the Paintings on the Walls, 16 in Number, which may be 12 Feet long and 10 Feet high, might relate to some of the most remarkable Royal Pageants of British History, or other appropriate Subjects. Statues of Her present most Gracious Majesty might fill the Central Niches at the Ends of the Hall; and the other Niches, as well as the Pedestals between the Paintings, might be occupied by Statues of Her Majesty's Ancestors. These Statues might with good Effect be of Bronze, either partially or wholly gilt.

Corridors of Access throughout the Building.

The principal Corridors of Access to the various Apartments of the Building will be 12 Feet wide, their Ceilings will be flat, and they will generally be lighted from Windows near the Ceiling. Their Walls might be decorated with Portraits as well as with Paintings, illustrative of some of the most remarkable Events in the History of the Country or in the Lives of its most eminent Personages. For this Purpose about 2,600 Feet in Length of Wall, by a Height of about 7 Feet, may be appropriated on the principal Floor; 900 Feet in Length, by a Height of about 7 Feet, on the One-pair Floor; and about 400 Feet by the same Height, on the Two-pair Floor. These Paintings may be divided into Subjects at Pleasure, by Margins or Borders of architectonic Decoration, in accordance with the Style of the Building.

The House of Lords.

This House will be 93 Feet long, 45 Feet wide, and 50 Feet high, and will have a flat Ceiling in Panels. As the Fittings for the Accommodation required for the Business of the House, together with the Windows which are necessary for duly lighting it, leave little Space of plain Wall, Paintings cannot, with good Effect, form any Part of its Decoration. Niches, however, will be provided, which might be filled with Statues of Royal Personages. The architectural Details of the Ceiling may be enriched and relieved with Gold and Colour, and the Windows filled with Stained Glass, as before described. The whole of the Fittings are proposed to be of Oak, with appropriate Carvings. The Throne will be highly enriched and relieved by Colour and Gilding, and the Back lined with Cloth of Gold, containing the Royal Arms emblazoned in their proper Colours.

The House of Commons.

This House will be 83 Feet long, 46 Feet wide, and 50 Feet high, and will have a flat Ceiling. It is proposed to be finished in the same Style as the House of Lords, but with less Enrichment and less of Colour and Gold in its Decorations. The Nature of its Design, and the Extent of the Fittings for the Accommodation required, will not admit of the Aid of either Painting or Sculpture.

The Queen's Robing Room.

This Room will be 38 Feet long, 35 Feet wide, and 20 Feet high, and have a flat Ceiling in Panels, richly moulded and carved, and relieved with Gold and Colour. The Ground of

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the Panels of the Ceiling is proposed to be of Gold, covered with a Diaper Enrichment, and blended with Legends, genealogical Devices, Badges, Cognizances, and other heraldic Insignia, &c., in Colour.

The Wall-fittings of the Room are proposed to be of Oak, richly carved and moulded, and enriched with heraldic and other Decorations in positive Colour, relieved with Gold. Compartments will be formed in the Wall-framing, which might be filled with Paintings referring to Events in British History in which the Sovereign has personally taken a conspicuous Part, or with other appropriate Subjects.

The Ante-room or Guard Room.

This Room, which adjoins the Queen's Robing Room, will be 38 Feet by 38 Feet, and 20 Feet high. The Ceiling will be of Oak, with characteristic Decorations. Oak Framing Eight Feet high with heraldic Decorations, and a Seat at the Foot of it, will line the Room. The Walls are proposed to be covered with Representations of Battle Scenes and Pageants of English History, in which an Opportunity will be afforded of displaying the warlike Costumes of its several Periods.

The Conference Hall.

This Hall, which is in the Centre of the Front towards the River, will be 54 Feet long, 28 Feet wide, and 20 Feet high, and will have a flat Ceiling. The Walls are proposed to be lined with Oak Framing to a Height of about Six Feet, above which they might be covered with Paintings representing celebrated State Trials, and extraordinary Sittings of Parliament, Conferences, &c.

As to the Apartments appropriated to the private and public Uses of each House.

These Rooms consist of Libraries, Refreshment Rooms, Robing Rooms, State Officers Rooms, and Committee Rooms.

Nine Rooms are appropriated to Libraries, Six of which are 50 Feet long and 28 Feet wide; Two are 33 Feet long and 28 wide; and One is 32 Feet long and 23 Feet wide. The Refreshment Rooms are Four in Number, of which One is 60 Feet long and 18 Feet wide; two are 28 Feet long and 18 Feet wide; and One is 34 Feet long and 18 Feet wide. The Robing Rooms for the Archbishops and Bishops are Three in Number, of the respective Sizes of 30 Feet by 20 Feet, 20 Feet square, and 16 Feet square. The Robing and other Rooms for State Officers are 17 in Number, averaging in Size about 24 Feet by 18 Feet. The Committee Rooms are 35 in Number. On the principal Floor Five of them will be 37 Feet long by 28 Feet wide; Two, 35 Feet by 26 Feet; and One, 32 Feet by 23 Feet. On the One-pair Floor Two will be 42 Feet long and 33 Feet wide; One, 54 Feet by 28 Feet; Four, 36 Feet by 28 Feet; Ten, 34 Feet by 28 Feet; and Two, 34 Feet by 22 Feet; and on the Two-pair Floor the Number will be Eight, averaging in Size 28 Feet by 20 Feet. The whole of these Rooms are about 20 Feet in Height, with the Exception of those on the Two-pair Floor, which will be about 14 Feet high, and will be lighted by Windows of the usual Height from the Floor.

The Ceilings will be flat, and formed into Panels by moulded and carved Ribs, relieved by characteristic and suitable Carvings.

The Floors are to be of Oak, with Borders and Inlays.

The Fire-places and Door Jambs are proposed to be of British Marbles, highly polished. The Doors, Frontispieces, Linings of Walls, and Fittings will also be of Oak. In some of the Rooms it is proposed that the Wall Framing should be carried to the Height of Six or Eight Feet; in others that it should be of the full Height of the Room, and with Panels for Paintings, Portraits, &c.

The plain Surfaces of the Walls might be covered with Paintings of historical Events, and the Panels in the Wainscoting might contain Portraits of celebrated Personages in British History.

The architectural Details, both in Stone and Plaster, might be painted in positive Colours, occasionally relieved by Gilding; and the Armorial Bearings, Badges, and other heraldic Insignia which will enrich the Wood Framing might also be relieved with Gold and Colour.

The Speaker's Residence.

This Residence, being designed for State Purposes, might also be adorned with Paintings. The Style of its Finishings, Fittings, and Decorations will be in accordance with the best Examples of the Tudor Period.

Its principal Rooms for Purposes of State are as follows: A Reception Room, 34 Feet by 23 Feet; a Library, 34 Feet by 23 Feet; a Dining Room, 45 Feet by 24 Feet; a Drawing Room, 38 Feet by 22 Feet; and a Corridor of Communication, 8 Feet wide, surrounding an internal Court.

With respect to any further Encouragement of the Fine Arts in the Exterior of the Building, I am not aware of any Opportunities that offer, as Arrangements have already been made for all the architectonic or conventional Sculpture that will be required to adorn

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the several Elevations. Equestrian Statues of Sovereigns in Bronze might, however, be placed, with considerable Effect, in the proposed Quadrangle of New Palace Yard, the Speaker's Quadrangle, and the Royal Court.

I have now described in general Terms the whole of those Portions of the Building that might, I think, with Propriety and Effect, be adorned with Works of Art, and the Arts of Decoration; but in making the several Suggestions which have occurred to me I should wish it to be understood that I have merely stated my own Views on the Subject, as far as I have hitherto been able to consider it in its general Bearings, and with a view to show how the Objects for which the Commission has been established may, if desired, be carried out, in the Decorations of the new Building, to their greatest Extent. I should not, however, wish to be strictly confined in all Cases to the Adoption even of my own Suggestions, as upon a more mature Consideration of the Subject in detail hereafter, when the Shell of the Building is completed, I may be induced to vary and modify some of the Views which I entertain at present, and which I fear I have but imperfectly communicated in this Paper.

D. B. Reid, Esq., M.D.

DAVID BOSWELL REID Esquire, M.D., is called in, and further examined as follows:

535. THE Committee wish to know how far the Principle of Ventilation, according to your permanent Plan, can be carried into effect in the Buildings connected with the House of Lords which are now going forward and being completed separately from any other Portion of the Building?

All the Arrangements within the House, and the Apparatus for heating the House, might be completed exactly in the Manner in which it is ultimately intended to have them applied; but the Boiler Apparatus, and the Discharge as well as the Ingress of Air, would require to be different, because until the Arrangements be completed at St. Stephen's Hall and at the Central Tower we shall not have the Opportunity of completing the Provisions in progress for these Purposes.

536. Will those Operations which are to be carried on, that cannot be considered as permanent, be Matters of very considerable Expense?

I should not consider that they would; but they would involve an Expense of several Hundred Pounds, from the Extent of the heating Department, and of the temporary Arrangements required for the Ingress and Egress of Air.

537. Suppose there was an Idea of occupying the Building after Easter, at that Period of the Year there would probably be much less Necessity for any great Preparations for the heating Department?

There would be less Necessity; but there are Times during that Period of the Year, especially when there are Easterly Winds, when we require as much Heat as in the preceding Months, and upon this Ground;—viz., when there is severe Weather in Winter the Apparatus is on Night and Day, and the Walls are tuned up to a certain Temperature, as it were; whereas if there is a sudden Change of Weather, particularly if after crowded Meetings and a high Temperature there should be a thin Attendance and a cold damp Atmosphere, then it is necessary to have a considerable Power to meet the Transition in the Atmosphere, which requires more and more Power according to the Extent of the Change. Though less Heat on the whole is required than in Winter, a powerful Apparatus is always advantageous in a Climate subject to so many atmospheric Changes as are experienced in this Country.

538. You are aware of the Buildings which it is probable may be got forward next Session with a view to their Occupation by the House of Lords, namely, the House itself, the Lobbies at each End of it, the Corridors communicating with the Libraries and Committee Rooms, and the Libraries and Committee Rooms themselves?

I am aware of the Buildings in connexion with the different Departments.

539. Would your temporary Preparation for Ventilation be capable of being applied to all that Portion of the Building, or should you require more than One Apparatus for the temporary Application of Heat?

I think it might be done either with One or Two, as Circumstances might determine. The Amount of heating Power would require to be the same, but whether it was subdvided into Two, or used as One, would depend upon the

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Conveniences given for the temporary Connexions that might be required, not to interfere with the Progress of the Works that would be going on at that Period.

540. Till you have examined the Buildings you can give no decided Opinion upon those Points?

I can give a decided Opinion upon this Point, when I am made aware of the various Passages and Spaces in the Vicinity of the Apartments to be occupied, which will be placed at Disposal for this Purpose, and not be kept open for the Convenience of the Workmen. The principal Point would be to provide a certain Amount of heating Power, and that heating Power might be regulated and placed under the Control of One or Two Boilers, in One or Two distinct Apartments, according to the Facilities given during the Progress of the Works for making the necessary Connexions.

541. Supposing the Buildings alluded to should be advanced in the Manner in which the Committee have been led to hope that they may be advanced, namely, to be covered in before the Winter, then the Preparation for Ventilation could be applied at the same Time, so as to get those Buildings dry by the Application of artificial Warmth, in order to assist the rapid finishing of that Portion of the Building?

Undoubtedly a certain Portion of the Apparatus might be arranged so as to produce that Effect; but if it was intended to occupy them at the Period referred to it might be questionable whether greater heating Power should not be used with a view of advancing the drying; for instance, the other Day, at the Model Prison, I found that the Quantity of Fuel required for heating had been diminishing for several successive Years; and therefore, in operating upon a new Stone Building, with which we are not practically familiar, on the large Scale, it might be a Question what Amount of Power it might be desirable to put on in order to accelerate the drying to the Extent that might be deemed proper.

542. Have you had any Experience of any Walls being dried by artificial Heat?

I have.

543. Did you ever know of any Injury arising from it?

I am not aware of any Injury in any Building of a similar Size. I have never applied it in any Building of equal Magnitude.

544. Should you apprehend that any Evil would arise, unless the Temperature you put on was beyond a natural Temperature?

With respect to the Walls, I should not.

545. Would it not accelerate the drying of the Walls very much beyond what would take place by merely natural Means?

Undoubtedly.

546. Especially when applied during the Winter Months?

If sustained with Ventilation permitting the evaporated Moisture freely to escape.

547. You would have no Difficulty in applying your Apparatus to drying the Walls. For instance, take the Lobby immediately behind the Throne, which is not at present built; supposing those Walls to be got up before Christmas, and covered in, should you have any Difficulty, before Six Months had elapsed, in making the Walls dry enough for Persons to inhabit it?

I have no Experience with respect to that particular Building, but I have no Doubt that the drying of the Walls might be accelerated to a great Extent, perhaps almost indefinitely.

548. You are aware that in general it requires Two Years to dry Walls properly; how much would you accelerate the Result by your Process?

It would be almost impossible for me to define precisely, but I consider that if a Current of mild warm Air be made to operate rapidly and continuously, and never urged beyond a certain Point, it might produce an extreme Acceleration. The Amount of Acceleration would be more dependent upon the Sum

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allowed for the Extension of the Apparatus that would cause a mild Heat to be applied generally than almost upon any other Point. It should be arranged so as to admit of large Quantities of Air being made to circulate constantly through the Building so as to imitate a warm Summer's Day. I speak now with reference to the Walls; not with respect to Wood or any Material which might be injured by such rapid drying.

549. Have you any detailed Plan as to the future and ultimate System of ventilating the House itself?

I have detailed Plans with respect to each individual Part of the House. They have been thrown together into a general Scheme, but I have no finished Drawing, such as would present them all together, some of the Spaces to be accorded for the Ventilation not having been finally determined in those Parts of the Building not yet in progress. I have the Details upon every Part.

550. Details illustrated by Drawings?

They are illustrated by Drawings.

551. Can you give the Committee any general Statement which would enable them to understand what you contemplate in your System of Ventilation?

I can do so. At the same Time I should wish it to be understood that it is to a certain Extent subordinate and dependant on the lighting, and also equally dependant upon the Amount of Surface that is given to me for the Purpose, which is not yet finally decided. But the Scheme upon which I am proceeding is this, that there should be certain Parts allotted at which the Air might be allowed to enter, but to an Extent that might be entirely regulated and placed under Control, so that the House, being divided into Five Zones, one embracing the Throne End, one the Bar End, one the Ministerial Bench, one the Opposition, and another the centre Space not included in any of those previous Four Divisions, it might be perfectly within the Power of the System of Ventilation to introduce sufficient Air for the ordinary Attendance at any One of those Zones, or to distribute Air in limited Portions to each and all of those Zones, according to the Amount required; further, there is a Mode by which it would be practicable to produce within the House an Effect equivalent to what would be developed by having so many Windows, as it were, placed within or between each individual Series of Benches, the Air supplied by this being controlled in its Temperature under the Direction of each individual Bench; by this means, and by at the same Time having far more Power at command in respect to the Heat than the present Apparatus in any way admits, I believe I shall be able to meet those Difficulties which have presented themselves in the present Houses.

552. In what Way and through what Channels do you propose to admit the hot and cold Air respectively to those different Portions of the House?

They would be admitted at the Throne End, behind the Throne, and around the Skirting, so that if the House were flooded with Air from that End, that Air would be introduced at the greatest possible Distance from those who are occupying the Benches; if the Air were admitted at the other End it might be equally introduced either on the Peers Side of the Bar or on the other Side of the Bar where Members of the House of Commons usually stand; besides this, it is proposed to have the Means of introducing Air at every rising Step, so as to produce the most extreme Diffusion practicable, while at the same Time a Control is exerted on the Surface of the Floor, so as to prevent any Material that might be there from mingling with the purer Atmosphere supplied by those different Channels. I may be allowed to mention, that the great Object has been to select every Point where it was possible to have Diffusion in each of the Zones mentioned, and to have the Power of admitting Air at any one of those Places generally in sufficient Quantity to work the Ventilation of the House under ordinary Circumstances. But on extreme Nights, when Members of the House of Peers might complain of the State of the Atmosphere, and wish a still greater Portion than could be supplied by those Means, then I would propose to bring in the Backs of the Seats and the rising Steps as Surfaces of diffusive Ventilation, under such Control as the Peers themselves might desire.

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553. Are you aware that the Backs of the Seats in the House of Lords are not permanent, as they are not allowed to be in the House when the Queen is present?

I was not aware that that applied to all the Seats. That would only reduce the Amount of Power on the Occasions of Prorogation or on the opening of Parliament; it would allow it to be generally available on other Occasions.

554. Do you propose to make the common Sources of Ventilation the Spaces in the several Risers or Gangways by which the Peers are to ascend to their Seats, or do you mean to bring the Air under the respective Seats of the different individual Peers?

I rather propose that the Spaces most distant from the Benches occupied should supply the largest Amount of Air, and that we should approach nearer and nearer to the individual Seats just in proportion to the Demand. The first Introduction of Air I propose to be at the greatest possible Distance; so that the House would be ventilated, as far as I have seen generally, in perhaps Nine Cases out of Ten, by an Atmosphere from the most remote Point that was possible; bring it in afterwards from the Bar, and from those Parts where the Air can be introduced at a considerable Distance from any individual Peer; then, when that distant Entrance of Air, equalizing itself in its Progress, is not sufficient, the Risers would be brought into play.

555. Then you would confine that Introduction of Air to Places where there are no Seats, and not bring it in where Peers are actually sitting?

There is no Necessity for that but on extreme Nights.

556. Do you consider that the Admission of Air in the Gangways and Places not actually occupied by Seats would not be sufficient to meet the Exigencies of extraordinary Occasions?

I fear it would not be sufficient, from what I have seen in the House of Peers as well as in the House of Commons; but I cannot consider that there would be any real Objection to having that Amount of Diffusion which is suggested at the Seats, in addition to all the rest, that never being put in operation except at the Desire of those sitting on the individual Benches.

557. In what respect will the proposed Ventilation of the new House differ from the existing Ventilation of the present House of Commons?

Essentially it will be the same, but the Diffusion will, by the Means suggested, be attained without the perpendicular Movement through any Surface that the Foot may touch. Besides that, the Power of sustaining a Temperature higher by several Degrees will be secured, which, I think, is an Alteration of most material Consequence. Before these Experiments were made upon the House it was the usual Opinion that the Air should not exceed from 62° to 65°; but when Members of either House are sitting as close as they do at the House of Peers and at the House of Commons upon particular Occasions, I have found that enough Air could not be given to sustain it fresh unless the Temperature was raised at 70° or upwards. The Members were uncomfortable, and complained of Cold, when the Air was lower in Temperature. And much of this Inconvenience cannot be cured at present from the total Inadequacy of the heating Powers at present in the House of Lords to supply the Air required, when the House is crowded, in sufficient Quantity to preserve Freshness.

558. Then the leading Distinctions between the proposed Mode of ventilating the House of Peers and the existing Mode of ventilating the House of Commons, are, first, an Alteration of the Perforations from perpendicular Spaces to horizontal Spaces, and, next, an Increase of heating Power?

Yes; and another is, the greater Command of the different Zones in the House, dividing the Supply according to the Aggregation of Members in different Parts of the House.

559. Have you found, from the Experience you have had of the Ventilation of the existing Houses, that there is a very considerable Difference in the different Parts of the House itself, — not referring to the Galleries or to the Bar,—but that the Congregation of Members in one Part of the House alters the Temperature of that Part of the House?

It does, to the Extent of many Degrees. If each Individual exposes a Surface

face of Twenty Feet or upwards at a Temperature of Ninety Degrees, it is impossible that it can be otherwise. *D. B. Reid, Esq., M. D.*

560. Do you propose to introduce the same Principle of Ventilation in the upper Parts of the House? 6th August 1844.

The same Principle that is introduced in the House of Commons, where the Galleries are always supplied with fresh Air, which repels the ascending Current of respired Air from below. In the Galleries the Force of the Current is managed in such a Manner that the fresh Air, ascending from below through hollow Walls, always repels the vitiated Air ascending from the Body of the House.

561. For the Purpose of carrying on this Ventilation you desire to possess a greater Space beneath the Floor in the House of Lords than was contemplated in the original Design?

Not than was contemplated in the original Committee on Ventilation, or in any subsequent Committee that has met. All the subsequent Committees have recognized the Principle that was first laid down, that there should be full Space given for the Extension of the Air Chambers both below and above the House; and in the Examinations before the Committee of the House of Peers at that Period, Two or Three Years ago, it was then stated, both by Mr. Barry and myself, that we contemplated following out the Instructions of the Committee in 1835. The great Object of Space below is, not only to have an adequate mixing Chamber, such as will give a fair Atmosphere that may be depended upon, but also to enable those Attendants who may be in charge of the Ventilation there to know the precise Condition of the Air proceeding to the individual Benches. The Case is so different, when a Member, for instance, in Office, has to sit occasionally for Six or Eight or Ten Hours, from that of a casual Attendant looking in and going out again, that unless there is a proper Control at individual Benches, where Individuals are necessarily so long engaged in one Position, almost without Power of Change, Examples must continually occur where Members of the Cabinet or others engaged in any particular Bill will leave the House, unless it can be adjusted to them. This Power of individual Control, by closing or increasing the Introduction of Air at the particular Benches, I consider will facilitate considerably the public Business of both Houses. Cases have occurred to me where Members of the Cabinet have spoken in such Terms of the State of the Atmosphere as affecting them, when they were not very well, or from other Causes, that if we had not been able to remedy it to a certain Extent my Impression is that they would have left the House, or the House must have been made uncomfortable to the great Majority present to meet their Feelings at the Moment. I cannot express myself too strongly as to the Importance of the Provision of Means for regulating the Atmosphere at individual Benches to Members who may be forced by public Business to occupy the same Seat for numerous successive Hours, almost every Day, for many consecutive Months.

562. What is the Space which is now proposed to be left between the Archings under the House of Lords and the Floor of the House?

The Space is Six Feet in the clear, such as would allow the Attendants to go freely and apply any Instrument, and at all Times to know the Condition of the Air upon each individual Bench.

563. Is not that contemplated Space of Six Feet an Alteration in that which was the Plan for the Archings below?

Certainly an Alteration is contemplated in that which was at one Time shown as the Plan; but I understood from Mr. Barry, that although that was suggested it had never been entirely decided upon. And he stated to me that he saw no Objection, if it was desirable that that Space should be afforded. The other was undoubtedly the Plan at one Time; and I did not press for this so much at one Period as I have done latterly, when I was informed that it had never been formally agreed to.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Thursday next, Half past Two o'Clock.

Die Jovis, 8° *Augusti* 1844.

The EARL OF SHAFTESBURY in the Chair.

Evidence on the Progress of the building of the Houses of Parliament.

The EARL OF LINCOLN, M.P., is examined as follows:

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564. ARE you aware that the House of Lords had a distinct Pledge from the Government, from the Moment when their House was first taken to be used by the House of Commons, that the House of Lords and the Buildings connected with it should be the first Part of the new Buildings that was to be completed?

I have frequently heard it stated that there was such a Pledge, though I have not heard it stated by whom the Pledge was given, or to whom it was given; nor am I aware of any Records, so far as the Office of Woods is concerned, of any such Pledge or Understanding.

565. Are there any particular Orders to Mr. Barry with regard to the Completion of any Portion of the Building?

No further Orders than to proceed as rapidly as the Nature of the Work will permit with those Portions of the Building upon which he is now engaged, the principal of which are the Houses proper, that is, the Two Houses of Lords and Commons.

566. Are you aware that no Portion of the Building of the House of Commons, except the under Basement, has been proceeded with at all; whereas the Building of the House of Lords itself is now at that Stage that the Roof is about to be put on?

I am quite aware of that; but they both form the same Contract, though, in consequence of the Anxiety which was expressed by some Members of the House of Lords that they should be put in possession of their House as early as possible, Mr. Barry has, without any specific Direction, proceeded more rapidly with that Part of the Building than with any other.

567. With a view to finish that Part of the House before any other?

With a view to put himself in a Position to finish that Part before any other, if any such Directions should be given.

568. Is there any Time specified for the Completion of the whole Contract?

I think not, but I am not positive.

569. Are you aware that Mr. Barry, when examined before the Committee of this House, with a view to obtain Information from him as to the Time of the Completion of the Building, stated that whenever he fairly began the House it would be finished within Two Years or Two Years and a Half.

I am aware that he gave such an Answer before the Committee of the House of Lords last Year.

570. And that he at that Time said that by Christmas he expected all the Walls would be ready for the Roof, and that it would be roofed in before the Winter; and that he also stated, that supposing that was finished by Christmas he should begin the plastering and finishing in the March of the present Year?

I see that in the Answer that he gave upon that Occasion he states that the roofing might be completed by Christmas last, that the plastering might be commenced in March last, and that the Oak Fittings and every other Preparation might be made in the meantime, so that they might be fixed the Moment the Walls were dry.

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571. Are you aware whether any Preparation whatever has been commenced at the Office for any interior Fittings of the House?
None whatever.

572. Are any Drawings prepared?
Drawings are prepared for the interior Fittings of the House of Lords, but no Orders have yet been given for commencing the Work.

573. Have those Drawings been examined and approved?
No. I should state that the Drawings to which I allude are not working Drawings; they are merely Drawings of the general Design.

574. Have you been lately over the Buildings?
About Three Weeks ago was the last Time I went over them.

575. You are of course aware of the Buildings more particularly necessary for the Accommodation of the House of Lords that are at present in hand, that is, the House itself, the Lobbies at each End of the House, the Corridors communicating from those Lobbies to the Front of the Building, and the Rooms in that Portion of the Front of the Building South of the Centre; are not all those Buildings in that State of Advance which would render it perfectly easy to have them all covered in before the Winter?
That is a Question which of course the Architect can answer better than I could; but I should rather doubt whether any Portion of the Buildings to which the Question has referred, except the House of Lords, could be so covered in.

576. Could not the Front Building to the River?
Yes; that is being covered in now.

577. Is not Mr. Barry at present executing Part of the Interior of the House of Lords; Part of the Fittings?
Not of the Wooden Fittings.

578. Are any Orders given for Drawings for the Fittings-up of the Libraries and Committee Rooms of the House of Lords?
No Orders have been given for Drawings or Fittings of any of the Rooms at present.

579. Your Lordship is of course aware of the Report of this Committee of last Year?
Yes, I am.

580. The Third and Fourth Paragraphs of that Report are as follow:—"That the Architect be directed so to conduct his Operations as to secure the Occupation of the new House of Lords, with temporary Fittings, at the Commencement of the Session of 1844. That in case the Architect, in the Progress of the Work of the new House of Lords, shall find that more Time will be required, in consequence of any Apprehension of injurious Consequences to the Building, he shall report the same to the Commissioners of Her Majesty's Woods and Forests, in order that such Report may be communicated to this House in due Time." Were any Directions given to the Woods and Forests, in conformity with that Recommendation?
No Directions were given, nor were any Steps taken; and for this Reason, that the Report of that Committee was, I believe, never communicated officially either to the Treasury or to the Office of Woods, and, consequently, so far as those Boards were concerned, no Cognizance could be taken of this Report, and of course Mr. Barry could not act under the Orders of a Committee of either House of Parliament. In fact, for the Reasons which I have before mentioned, this Report, so far as the Office of Woods is concerned, has been a dead Letter.

581. If that Report had been communicated to the Office of Woods and Forests by the House the Office of Woods would have thought it necessary to interfere, and direct that more rapid Proceedings should take place in the Completion of this Portion of the Buildings?
If this Report had been communicated to the Office of Woods the Course that would have been taken would have been this:—Inasmuch as an Allusion is made to temporary Fittings, which would have entailed additional Expense, the Office

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Office of Woods would have sent a Copy of this Report to the Treasury, and requested their Directions as to what Course should be taken.

582. Your Lordship has spoken of the Communication of a Report by the House or other Authority to the Office of Woods. Can any Directions be given to the Office of Woods, or do you conceive that you are bound to comply with any Recommendation, except one which comes from the Government itself by Her Majesty's Command?

Certainly not; but if a Committee of either House had reported its Opinion that such and such Things should be done, the Office of Woods would have communicated with the Treasury, and taken their Lordships Pleasure as to whether the Recommendations of that Committee should be attended to.

583. But in the event of Parliament having a Desire to communicate any Recommendation to the Board of Works, does not your Lordship conceive the regular Course to be to move an Address of the House, and thereby to obtain the Assent of the Crown to any Recommendation which may be so given, as distinguishing it from any mere Parliamentary Recommendation?

I should suppose, undoubtedly, that that would be the more regular Course; but so far as the Office of Woods is concerned, we should always pay that Attention to the Recommendation of a Committee, communicated by that Committee itself, which I have before mentioned; though I do not mean to say that either the Office of Woods or the Treasury would hold themselves bound by any such Recommendation.

584. Are there any Instances which have come within your Knowledge of Directions or Recommendations coming from Committees, and being acted upon?

Certainly not Directions; but on a recent Occasion the First Report of the Lords Committee, which I am now attending, was communicated in the Way I mention, and the Course I took then was, to refer that Report to the Treasury, and inquire whether they had any Directions to give upon it.

585. Did Mr. Barry ever mention to your Lordship the Anxiety of the House of Lords to get into their new House as quickly as possible?

Mr. Barry has frequently told me, that individual Members of the House of Lords had expressed a great Desire to get into the new House as soon as possible.

586. And you are also aware that a Committee appointed for that Purpose by the House have expressed that Desire in the strongest Terms?

I am.

587. This House has been put to very great Inconvenience on account of not having a sufficient Number of Committee Rooms in the course of this Year, having been confined literally to Three or Four; what Chance is there of their getting into the new Committee Rooms next Year, after Easter?

The same Complaint has been made by the House of Commons, with regard to the Want of Committee Rooms, in the course of the present Year; and it has been represented to me that there would be a still greater Necessity for new Committee Rooms next Year, inasmuch as a large Proportion of those which the House of Commons now has will be removed immediately upon the Prorogation of Parliament. Under these Circumstances, I have inquired of Mr. Barry how far it will be possible to accommodate both Houses with Committee Rooms in the new Building next Year. I believe that it will be perfectly possible to do so, but that it will be extremely inconvenient; and in order, if possible, to obviate the Necessity for having recourse to that Expedient, I have desired Mr. Barry to see whether it would not be possible to secure for the next Year Committee Rooms of sufficient Number and Size in the immediate Vicinity of both Houses of Parliament. I have not yet ascertained whether that will be possible, though I am in great Hopes that we shall be able to do it.

588. You are aware that the Separation of the Committee Rooms of the House of Lords from the House itself, from the Circumstance of the Witnesses being sworn, and the Frequency of Communication which we have always enjoyed with the Chairman of Committees, is particularly inconvenient?

I am aware of that; but I believe that, so far as the House of Lords is concerned, there will be next Year the same Accommodation for Committees as

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there has been this Year; and that any Committee Rooms which may be procured elsewhere will be in addition to those already possessed by the House of Lords.

589. What is the Reason for removing the Committee Rooms of the House of Commons?

On account of the Necessity of proceeding with that Portion of the Building which will be erected on the Site now occupied by those Committee Rooms.

590. Will it not be desirable to finish those Parts of the Building now on hand, rather than to commence any new Works?

No; for this Reason, that the Access to that Part of the Building now on hand is by means of that which is to be erected on Ground now occupied by the Committee Rooms.

591. The ultimate public Access, but not the Access which can be afforded at present?

I believe that if Inquiry is made of Mr. Barry he will inform your Lordships that the Postponement of that Portion of the Building would not at all expedite the other Part of it, but the reverse.

592. The Committee have examined Mr. Barry with respect to the Mode in which the new Committee Rooms are proposed to be fitted up; have you turned your Attention to that, so as to be able to tell the Committee whether it is contemplated that they should be fitted up with Decorations, or in a simple Way?

Nothing has been determined upon that Point; and for this Reason:—Your Lordships will be aware that the Question of how far the Houses of Parliament can be made available for the Encouragement of Art in this Country has been under the Consideration of Commissioners specially appointed for that Purpose, and until some Decision is arrived at by that Commission the Government has not thought it right to enter upon the Question of how those Committee Rooms or other Portions of the Building should be fitted up.

593. Do you not conceive that it would be a Waste of Time and of Expenditure if the Committee Rooms were to be made Matters of expensive Decoration?

I should conceive that to be a Question of Degree. It would not probably be wise to fit up the Committee Rooms with the same Splendour of Decoration with which you would fit up the Houses themselves.

594. But in the event of this Committee recommending that the internal Arrangements of the Parts of the Building to which the Question has alluded should be as simple as possible, would not it be competent to Mr. Barry to complete that Work much more rapidly?

I should doubt that Fact very much, though it would of course depend on the Character of the Decorations. If the Committee Rooms are to be decorated with Frescos, of course the Preparation of Lime, and various other Considerations, would postpone the Completion of those Rooms; but most other Decorations, whether handsome or plain, might be completed within the same Time.

595. Are the Committee to understand that the Completion of the Committee Rooms of the House of Lords is kept in suspense until a Decision shall be had upon the Recommendation of the Commissioners of Fine Arts?

That is one Reason; another is, that till the present Moment no Decision upon that Subject was necessary, on account of the State of Progress of those Rooms. Unquestionably, now that those Committee Rooms are in so advanced a State, some of them having been roofed in, and others being about to be roofed in this Year, it will become incumbent upon the proper Authorities to consider and decide upon that Question; but if those Committee Rooms are to be fitted up for temporary Accommodation next Year I apprehend it will be quite necessary to fit them up without any Decoration whatever, and reserve the Decision upon that Point for after Consideration.

596. Has any Alteration been made since this Committee commenced its Sittings in the Principle upon which Mr. Barry executes his Work, as regards his Responsibility to the Commissioners of Woods?

Yes, to this Extent:—Prior to the Appointment of the Committees of both Houses

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Houses of Parliament this Year, Mr. Barry has been in the habit of making Alterations in the internal Arrangements of the Building, where no additional Expense was incurred, without regular official Authority. I should state that since I have been at the Office of Woods I have generally been personally cognizant of these Alterations, but no official Report has been made upon the Subject. Since the Appointment of the Two Committees I have found that it was the Desire on the Part of the Members of both Houses that such should no longer be the Case, and therefore I have directed Mr. Barry invariably to report to the Office of Woods any Alteration which he may consider desirable, accompanied by a Plan of such Alteration, whether any Expense is entailed thereby or not.

597. Is the Effect of that Alteration to require a previous written Authority from the Commissioners of Woods before Mr. Barry undertakes any Change whatever?

That doubtless will be the Operation of it. I should state that the Case has not yet arisen, inasmuch as the Directions given to Mr. Barry are that any Deviation from the Plan which I have signed and deposited in the Library of the House of Lords shall be reported, and no Deviations from that Plan have yet been desired by Mr. Barry, so far as I am aware.

598. That Report is to be made before the Commencement of the Work, and not after the Deviation has taken place?

Not only before the Commencement of the Work, but before Mr. Barry himself will consider himself authorized to adopt it. At the same Time, I should desire to explain, that, so far as I am concerned, whilst I remain at that Office, I certainly shall not consider myself either qualified to exercise or justified in exercising any Control in Matters of architectural Criticism over Mr. Barry which may have the Effect of relieving him from that Responsibility which I conceive ought to attach to the Architect of this great national Building.

599. But still are the Committee to understand that there is a Responsibility imposed upon the Commissioners of Woods, so as to prevent any material Deviation from the Plans upon Mr. Barry's sole Authority?

Yes, to this Extent; that any Deviation hereafter made from the Plan which I signed Two or Three Days ago must receive the official Sanction of the Commissioners of Woods, and thereby, of course, they would be responsible for such Sanction.

600. Do you require such an Application to be accompanied with an Estimate of the probable Cost, if any, in Excess of the proposed Alterations?

Certainly; but I should state that that has been invariably the Case hitherto. Mr. Barry has never made any Deviation from the Plan sanctioned in 1836 which entailed any Increase of Expense, however small, without asking Authority for it before commencing it.

601. Do you conceive that these new Regulations impose so strict an Obligation upon Mr. Barry that he is prevented from making any Drawing of any contemplated Part of the Building without the previous Consent and Approval of the Commissioners of Woods?

If I understand that Question to refer to the Plans which it will be Mr. Barry's Duty to make, with a view to the Execution of the different Parts of the Building, then my Answer is, certainly not, inasmuch as he must prepare those Drawings under any Circumstances; but if the Question alludes to any Drawing of Alterations suggested by others, or intended by himself, certainly I should conceive that he would require Authority to make such Drawings as those.

602. But with respect to the internal Fittings of any Portion of the House, or the Buildings adjacent to the House, or the Passages or Halls, do you think that Mr. Barry has full Authority to make the Drawings for those, in conformity with his original Plan, without first obtaining the Sanction of your Board?

Certainly I do not consider that he can require Authority; but, on the contrary, as a preliminary Proceeding, he ought and must make the Drawings which are necessary for the carrying out of his own Plan.

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603. Mr. Barry was asked what the Estimate of the Execution of the Plan, as now signed by your Lordship, was, and he stated that for the Building only it was 873,011*l.* 3*s.* 1*d.*, exclusive of the Cost of the River Wall and the other miscellaneous Expenses. Is your Lordship aware what will be the Cost of those other Works, and what is meant by other miscellaneous Expenses?

I cannot state the exact Sum; but when he speaks of miscellaneous Expenses I imagine him particularly to refer to that Expense which was incurred in purchasing Buildings for the Sites for the Houses, amounting, so far as I recollect, to upwards of 90,000*l.*

604. Mr. Barry stated to the Committee that his Estimate comprehended the entire Fittings-up of all the Committee Rooms, and all the Buildings connected with the House, in the ordinary way of finishing; but that if a high State of Decoration was required, any thing beyond ordinary finishing, there would be a corresponding Increase of the Estimate. Has your Lordship ever had any Estimate made to you of what may be the extra Expense that would be consequent upon such a Decoration?

None whatever; and for this Reason,—that no Decision has been come to with a view to incurring any further Expense than that originally calculated upon by Mr. Barry.

605. Has your Lordship ever seen the Plans of Mr. Barry for the internal finishing the Committee Rooms and the Libraries, made in 1836, upon which the Estimates are calculated?

I do not at this Moment recollect that I have. I am not quite sure.

606. Would it not be necessary that those should be before you at the Time that you have the Plans which Mr. Barry has been preparing or will prepare by your Lordships Orders, in order that there might be a Calculation made of the Difference of Expense of the Two Modes of fitting up?

Certainly, if any more expensive Mode for fitting up than that originally contemplated be adopted by the Government, it will be quite necessary to have a new Estimate made, with a view of informing the Treasury as to what Extent the original Estimate will be increased by such Alteration.

607. You do not recollect the Estimate which was made for the fitting up of those Rooms?

No, I do not. Of course Mr. Barry would be able to answer the Question more accurately; but my Impression is that he never gave any separate Estimate for those Fittings.

608. Do you think that the directing the Completion of the Rooms for Committee Rooms, instead of adopting your Suggestion of taking other Apartments for that Purpose, would be a serious Objection to the Completion of the Building?

I do not know that it would be a serious Objection; but I thought, so far as I was able to ascertain by Conversations with Mr. Barry and Dr. Reid, that in respect to the Committee Rooms of the House of Commons it was extremely desirable to obviate the Necessity of a temporary Occupation of that Part of the Building, unless the public Business absolutely required it; and I apprehend that the same Objection would equally apply to the Occupation of that Part of the Building appropriated for Committee Rooms of the House of Lords.

609. Have you consulted the Speaker upon that Subject?

I have consulted the Speaker upon the Amount of Accommodation which would be required, and he has given me a Statement of the Number of Committee Rooms, and I have engaged to provide that Accommodation either in the House or elsewhere; but I believe the Speaker recognizes the Inconvenience of the temporary Occupation of that Part of the Building, and would perfectly acquiesce in any other Accommodation, provided it was sufficient in Size and in Number of Rooms.

610. You stated that you did not consider yourself competent to judge of any Alteration of an architectural Character proposed by Mr. Barry. Under what Circumstances would you think it right to interfere to prevent any Change that he suggested?

Until the Case occurred I should feel myself under considerable Difficulty in

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stating the Circumstances under which I should exercise Interference, though unquestionably one involving great additional Expense would be the main and principal One, and the One which occurs immediately to my Mind.

611. One affecting Convenience or Accommodation would you consider yourself competent to judge upon, and justified in interfering in order to prevent a Change which was at variance with the original Plan?

If such an Alteration was proposed by Mr. Barry I certainly should feel myself justified in interfering, but I can hardly imagine such a Case to arise with Mr. Barry, who has been considered by both Houses of Parliament competent to undertake this Building, and who has directed so much of his Attention and devoted so much of his Time to the various Accommodations required. I can hardly imagine a Case arising where he would be guilty of so great an Oversight as to deprive the House of Lords or the House of Commons of any Convenience already existing in his Plans.

612. Are you aware that Alterations have been made which are not generally approved of by the Parties who approved of the general Plan?

I am aware that Alterations have been made to which some Members of this Committee have demurred; but I should doubt exceedingly, so far as I am able to judge, whether any Alteration has been made which is either inconvenient in its effect or prejudicial to the general Completion of the whole Building. Your Lordships must be aware, of course, from Examination of Mr. Barry, that a great many of those Alterations have been entailed upon him almost necessarily by the Alterations which he has been directed either by the Government or by the Committees of both Houses to carry out in other Parts of the Building.

613. The Committee have had before them the Form of Contract by which it is stipulated that there may be Deviations with respect to the Execution of the Works, provided those Deviations are sanctioned by the Office of Woods. With regard to the Deviations which have already taken place, do you conceive that the Contract is at all affected, or that there may be any subsequent Demand upon the Public for additional Remuneration on account of that?

Certainly not. If any such Deviation had taken place I should certainly have acquiesced in the Opinion that Mr. Barry had greatly departed from his Duty; but I apprehend that the Alterations which have taken place were previous to the Contract being entered into by Messrs. Grissell and Peto, and that such Alterations were fully known to the Contractors.

614. At what Time was the Contract under which the House of Lords is now being built entered into with Messrs. Grissell and Peto?

I cannot speak positively to the Date, but it must have been within Two Years from the present Time.

615. The Contract as regards the River Front?

The Contract as regards the River Front was a different Contract. The Contract for the River Front was taken considerably before my Connexion with the Office of Woods, and I therefore cannot speak to the Date. The last Contract taken by Messrs. Grissell and Peto has been the Contract for the Two Houses of Parliament, and that was certainly taken within Two Years, though I cannot speak to the exact Date.

616. Is any Report made from Time to Time to the Woods and Forests of the Progress of the Building?

Yes. The Direction which I gave to Mr. Barry on this Subject was given at the same Time as the other Direction with reference to the Alteration of the Plan to which I have before adverted. Mr. Barry will make a half-yearly Report to the Office of Woods of the Progress of the Building. Since 1840, Mr. Barry has made an annual Report, under a Regulation established at that Time; but in reality his Reports have been more frequent,—perhaps almost half-yearly. It generally has arisen either from some Complaint from some Parties, or from Observation of the Commissioners themselves, that there was a Delay in the Progress of the Work, when Mr. Barry has been called upon by the Office of Woods to account for such Delay, and that has led to a Report

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from him of the Causes of the Delay, and consequently of the State and Progress of the whole Work.

617. Suppose the Office of Woods, in accordance with any Recommendation from this Committee, and communicated by the House, and with the Sanction of the Lords of the Treasury, should direct a particular Portion of the Building to be more rapidly proceeded with, would you expect a Special Report from Time to Time as to the Advance made in that Part of the Building?

If any Directions were given to Mr. Barry by the Office of Woods, after communicating with the Treasury, for the more rapid Execution of any particular Portion of the Building, I think in all probability I should consider that it was requisite in those Directions to require Mr. Barry to report from Time to Time how the Work was proceeding.

618. Has your Lordship ever consulted any body but Mr. Barry respecting the Time that it would require to finish the Committee Rooms, for instance?

No. I apprehend, in answer to that Question, there can be no Doubt as to the Possibility of completing those Committee Rooms for Occupation next Year, though without the Fittings which may be considered permanently necessary; their Occupation being merely a Question of Expediency with regard to the other Parts of the Building.

619. Suppose the House of Lords to be content with the Committee Rooms finished in the barest Way possible, not looking to any temporary Fittings, to give a temporary Finish, but to leave them like the Walls of an unfinished House, would there be any Difficulty in getting the Rooms into that State of Preparation?

None whatever. I think my Answer to the previous Question is an Answer to this. There is no Difficulty in the Completion of the Committee Rooms themselves before the Meeting of Parliament next Year. The only Difficulty arises from the Inconvenience to the Progress of the rest of the Building. The Committee Rooms being high up, and at the extreme Part of the Building from where the Entrance will be, it would of course be necessary to have covered Passages to them, in order to exclude the Public frequenting the Committee Rooms from those Portions of the Building in which the Workmen are now engaged, or otherwise considerable Inconvenience would arise; and the mere Fact of Two Passages coming across the Workmen at the Two Ends of the Building would in itself be a very great Inconvenience. I should state that another Inconvenience which would arise would be this,—that it would be necessary to make some temporary Provision for the Purpose of the Ventilation of those Committee Rooms, inasmuch as one general System is proposed by Dr. Reid, which cannot be completed by next Year, and therefore some temporary Arrangement for the Purpose of warming and ventilating the Committee Rooms must be provided.

620. And all the Preparations for the Access to those Rooms would be of a temporary Character merely?

Certainly.

621. You are aware, from the Mode in which the Buildings are laid out, that the Access to the House of Lords would not be of a temporary Character, but would be the Access through the Corridors?

That is with respect to the Access to the House of Lords for the Peers themselves, but not with respect to the Access by which the Public would be admitted to the Committee Rooms. I mean the Witnesses and other Parties.

622. The Access by which the Public would be admitted, using the present Access to the House of Lords, is the temporary Accommodation now given to the Peers and the Public?

There is a Difficulty of Access as regards the Communication with the Commons Committee Rooms; and my Impression is that the same Objection applies to the Lords Committee Rooms; but the Architect will of course be able to answer that Question better than I can.

The Witness withdraws.

CHARLES BARRY, Esquire, is called in, and further examined as follows:

623. ARE you aware that when the existing Accommodation for the Houses of Parliament was determined upon, an Understanding was entered into that the House of Lords should be finished, with proper Appurtenances, more speedily than any other Part of the Building?

I heard of such an Understanding, but I did not know who were the Parties with whom the Understanding was entered into.

624. You never received any Orders in accordance with such an Understanding?

Never.

625. Do you mean to say that you never were informed by Lord Duncannon, while he was First Commissioner of Woods and Forests, that the House of Lords was to be finished before any other Part of the Building?

I perfectly recollect his Lordship saying that there was an Understanding that the House of Lords was to be completed a Year before the House of Commons, but I never received that as an official Intimation.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned.

Brought from the Lords, 9 *August* 1844.

SECOND REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS

APPOINTED TO INQUIRE INTO THE

PROGRESS OF THE BUILDING

OF THE

HOUSES OF PARLIAMENT,

And to report thereon to The House;

WITH

THE MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE.

Session 1844.

Ordered, by The House of Commons, *to be Printed*,
9 *August* 1844.

629.

Under 8 *oz.*

NEW HOUSES OF PARLIAMENT.

RETURN to an ORDER of the Honourable The House of Commons, dated 16 September 1841;—*for*,

COPY of LETTER from the First Commissioner of Woods, &c. to the Chancellor of the Exchequer, on the subject of WARMING, VENTILATING, and Securing from FIRE, the NEW HOUSES OF PARLIAMENT.

Sir, Office of Woods, 27 August 1841.

THE progress of the Works at the New Houses of Parliament, and the necessity of laying down the foundations on which the flues for warming and ventilating the Houses are constructed, induced me to desire Mr. Barry and Dr. Reid to make a joint report on these subjects; by which it appears that a sum of 86,000*l.* will be required for warming, ventilating, and securing the buildings from fire, according to the following statement:

	£.	s.	d.
Ventilating Tower	20,000	–	–
Air and Chimney Flues in the Walls	12,320	–	–
Apparatus	12,000	–	–
£.	44,320	–	–
For securing the Buildings from Fire:			
Fire-proof Floors under the Roof £. 20,680 – –			
Brick Floors on Iron Beams between the Principal and Upper Stories 21,000 – –			
	41,680	–	–
£.	86,000	–	–

I must observe, that in this sum Mr. Barry has included the sum of 20,000*l.* for a centre tower, not intended in the original plan, but which will be so constructed as to suit Dr. Reid's new system of ventilation, which he considers will be a great addition to the beauty of the structure. I am unwilling to recommend so large a sum to the Treasury without the sanction of Parliament, although a considerable part will be necessary under any circumstances, if the Houses are to be warmed and ventilated on the system adopted by Dr. Reid in the present temporary Houses, and which appears to me to give general satisfaction.

From the prices at which contracts have been taken for the works already in progress, there can be no doubt, with care and attention, that a considerable saving will take place on the original estimate that was sanctioned by the Committee of the two Houses; and I therefore request you to bring the subject before the House of Commons, as the state of the works makes it necessary that some decision should be come to without delay; I will only add, that no unnecessary delay has taken place in bringing this subject forward, and that Dr. Reid has delivered in his estimate as soon as the state of the works allowed him to do so.

I have, &c.

The Right hon. F. T. Baring, &c. &c. &c.

(signed) *Duncannon.*

My Lord, Westminster, 21 August 1841.

I BEG to submit for your Lordship's consideration, a drawing of the river front of the new Houses of Parliament, showing the effect of a central tower of the height and diameter required by Dr. Reid for the purpose of ventilation according to his first suggestion; and I have no hesitation in expressing my opinion, that the adoption of such a feature in the design would considerably improve the general effect and importance of the intended building.

I have, &c.

The Viscount Duncannon. (signed) *Charles Barry.*

Whitehall, Treasury Chambers,
14 September 1841.

THO. F. FREMANTLE.

NEW HOUSES OF PARLIAMENT.

COPY of LETTER from the First Commissioner of Woods, &c. to the Chancellor of the Exchequer on the subject of WARMING, VENTILATING, and Securing from FIRE, the NEW HOUSES OF PARLIAMENT.

(Sir Thomas Fremantle.)

Ordered, by The House of Commons, *to be Printed,*
16 *September* 1841.

23.

Under ½ oz.

HOUSES OF PARLIAMENT.

RETURN to an Order of the Honourable The House of Commons, dated 24 February 1843;—*for*,

AN ACCOUNT of the Total Amount Voted for the Building of the New Houses of Parliament, stating the Date of the several Votes, the Amount Voted, and whether Expended or not; together with an Estimate of the further Sums that will be required to complete the Buildings.

VOTES.	£.	s.	d.	£.	s.	d.
Session 1835	15,200	–	–			
— 1837	88,000	–	–			
— 1838	100,000	–	–			
— 1839	50,300	–	–			
— 1840	30,000	–	–			
— 1841	50,000	–	–			
— 1842	105,000	–	–			
Total Amount Voted - - - - £.				438,500	–	–
Amount unexpended to the date of this Return, which will be required for works now in progress of completion - - - - - - - - - -				58,016	10	–
Total Amount Expended - - - £.				380,483	10	–

Details of the above Expenditure:

	£.	s.	d.	£.	s.	d.
For the purchases of property in Abingdon-street and the vicinity, required to form a site for the New Houses of Parliament, and for various miscellaneous services connected with the rebuilding of the same - - - - - - - - - -	90,605	6	6			
For the river wall, &c. - - - - - - - - -	55,902	3	2			
For the general building - - - - - - - -	233,976	–	4			
				380,483	10	–

	£.	s.	d.	£.	s.	d.
ESTIMATE of the further Sums that will be required to complete the Buildings - - - - - - - - - - - - - - £.				578,424	12	9

Details of the above Estimate:

	£.	s.	d.
Mr. Barry's original estimate for the building - - £.	707,104	–	–
Additions to the above Estimate:			
For extra foundations, in consequence of quicksands and springs, and for strengthening the foundations of the Victoria and other towers - - - - - - - - - - - -	35,063	3	1
Probable excess of cost by the use, for the whole of the exterior, of the hardest and most expensive of the stones selected for this building - - - - - - - - - - - -	22,000	–	–
For rendering the building fire-proof - - - - - -	21,000	–	–
For warming and ventilating the building, including the cost of the proposed central ventilating tower required by Dr. Reid to carry his system into effect - - - - - - - -	65,000	–	–
For providing additional accommodation for attornies, as recommended by the Law Society - - - - - - -	5,000	–	–
For providing an official residence for the Librarian of the House of Commons - - - - - - - - - - -	1,250	–	–
Ditto - ditto - for the Clerk of the House of Commons	2,000	–	–
Contingencies—probable amount - - - - - - - -	12,000	–	–
Total Amount of Estimates submitted by Mr. Barry for the Building (carried forward) - - £.	870,417	3	1

	£.	s.	d.	£.	s.	d.
Brought forward - - -	870,417	3	1			
Add:—						
Expense incurred in building the river wall, including the cofferdam - - - - - - - - - - - -	55,902	3	2			
For purchase of premises and various miscellaneous expenses -	90,605	6	6			
TOTAL AMOUNT of Mr. Barry's Estimates for the general Building, and also of the actual expenditure for building the river wall; for the purchase of premises required to form a site for the New Houses of Parliament, and for miscellaneous services relating to the same -	1,016,924	12	9			
Amount already voted - - - - - - - -	438,500	—	—			
Estimated Amount of the future Votes of Parliament that will be required in the present and subsequent Sessions to complete the Buildings - - - - £.				578,424	12	9

In addition to what is above stated, a further Expenditure will be required for completing the landing-places from the river Thames, connected with the New Houses of Parliament; for making good the Pavings, &c. of the Streets and Places adjoining; for providing Furniture and Fittings for both Houses of Parliament, the several Offices and Official Residences belonging thereto, and for any Decorations by Works of Art beyond what were included in Mr. Barry's Estimate.

Office of Woods, &c.
21 March 1843.

LINCOLN.
A. MILNE.
CHARLES GORE.

HOUSES OF PARLIAMENT.

AN ACCOUNT of the TOTAL AMOUNT Voted for Building the New HOUSES OF PARLIAMENT; with an ESTIMATE of the further Sums that will be required to complete the Buildings.

(Mr. Hume.)

Ordered, by The House of Commons, *to be Printed,*
23 *March* 1843.

125.

Under ½ oz.

HOUSES OF PARLIAMENT.

RETURN to an ORDER of the Honourable The House of Commons, dated 23 April 1844;—*for*,

COPIES of the CORRESPONDENCE between the Commissioners of Woods and Forests with *Charles Barry*, Esq. Architect, respecting the Sum or Allowance to be paid him for Superintending the Building of the HOUSES OF PARLIAMENT.

Ordered, by The House of Commons, *to be Printed*, 16 *May* 1844.

My Lords, Office of Woods, &c., 20 February 1838.

THE subject of the remuneration to be made to Mr. Barry, as the architect selected for superintending the erection of the New Houses of Parliament, having been pressed upon the attention of this Board, in consequence of the opinions expressed at different times in both Houses of Parliament against the principle of remunerating architects by a commission or per-centage upon the amount of their estimates, we beg leave to state to your Lordships, that in deference to those opinions, we have given the subject our best and most mature consideration; and that having carefully considered all the circumstances of this case, the extent and importance of the building, the nature and description of the several works, the very large amount of expenditure contemplated in Mr. Barry's estimate, and the period within which it is proposed that such expenditure should be incurred,—we are therefore of opinion, that the sum of 25,000 *l.* will be a fair and liberal remuneration for the labour and responsibility to be imposed on Mr. Barry in the superintendence, direction, and completion of the intended edifice.

If your Lordships should be pleased to concur with us in this opinion, we would recommend that the payments to Mr. Barry, for his professional services, should be made at stated intervals during the progress of the building, and in sums proportioned to the expenditure incurred from time to time upon works executed under his direction; that the monies so paid should be received by Mr. Barry in full discharge for his time, trouble, and expenses, up to the period to which each payment shall have been calculated; and that should he, from any unforeseen circumstances, be prevented from attending to the completion of the New Houses of Parliament, the sum to be paid to him upon the termination of his services, should, with the monies previously paid to him, as the architect of the building, form a fair proportion of the above-mentioned sum of 25,000 *l.*, to be calculated upon the amount of the works executed at the period of those services ceasing to be available.

We are, &c.

(signed) *Duncannon.*
B. C. Stephenson.
A. Milne.

To the Right Hon. the
Lords Commissioners of Her Majesty's
Treasury.

Treasury Chambers,
28 Feb. 1838.

My Lord and Gentlemen,

THE Lords Commissioners of Her Majesty's Treasury having had under their consideration your representation of the 20th instant, wherein you submit that, in the case of Mr. Barry, the architect selected to superintend the erection of

the

the New Houses of Parliament, instead of a per-centage, such fixed sum or allowance may be assigned to the architect as the circumstances may appear to you to justify, and as my Lords may think reasonable and proper; my Lords have directed me to inform you, that they entirely concur in your suggestion, and are of opinion that the sum of 25,000*l.* proposed by you, will be a reasonable and proper remuneration for the labour and responsibility to be imposed on Mr. Barry, in the superintendence, direction, and completion of the New Houses of Parliament; the above sum of 25,000*l.* to be paid to him at stated intervals during the progress of the building, and in sums proportionate to the expenditure incurred from time to time upon the works executed under his direction; and that the monies so paid, should be received by Mr. Barry in full discharge of his time, trouble, and expenses, up to the period to which each payment shall have been calculated; and that should he, from any unforeseen circumstances, be prevented from attending to the completion of the New Houses of Parliament, the sum to be paid to him upon the termination of his services, should, with the monies previously paid to him as the architect of the building, form a fair proportion of the above-mentioned sum of 25,000*l.*, to be calculated upon the amount of the works executed at the period of those services ceasing to be available.

I am, &c.

The Commissioners of Woods, &c. (signed) *E. J. Stanley.*

Treasury Chambers,

My Lord and Gentlemen, 25 Feb. 1839.

My Lords have had under their consideration your report of the 20th February 1838, on the subject of the remuneration to be made to Mr. Barry for superintending the execution of the New Houses of Parliament, wherein you stated that you had given the subject your best and most mature consideration, and that having carefully considered all the circumstances of the case, the extent and importance of the building, the nature and description of the several works, and the very large amount of expenditure contemplated in Mr. Barry's estimate, and the period within which it was proposed that such expenditure should be incurred; and were of opinion that the sum of 25,000*l.* would be a fair and reasonable remuneration for the labour and responsibility to be imposed on him in the superintendence, direction, and completion of the intended edifice; and that you would recommend that the payments to Mr. Barry, for his professional services, should be made at stated intervals during the progress of the building, and in sums proportioned to the expenditure incurred from time to time upon works executed under his direction; that the monies so paid should be received by Mr. Barry in full discharge of his time, trouble, and expenses, up to the period to which each payment shall have been calculated; and should he, from any unforeseen circumstances, be prevented from attending to the completion of the New Houses of Parliament, the sum to be paid to him upon the termination of his services, should, with the monies previously paid to him as the architect of the building, form a fair proportion of the above-mentioned sum of 25,000*l.*, to be calculated upon the amount of the works executed at the period of these services ceasing to be available. And my Lords have directed me to inform you that they concur in the view taken by you in your report, and are pleased to convey to you their official sanction and direction for making the necessary arrangements for carrying it into effect.

I am, &c.

The Commissioners of Woods, &c. (signed) *T. Baring.*

Sir, Office of Woods, &c., 1 March 1839.

I am directed by this Board to transmit to you copy of a letter received from the Treasury, dated the 25th ultimo, upon the subject of the remuneration to be made to you for superintending the execution of the New Houses of Parliament, in lieu of commission upon the expenditure.

I am, &c.

Charles Barry, Esq. (signed) *Henry Hake Seward.*

Sir, Foley Place, 27 March 1839.

I HAVE to acknowledge the receipt of your letter of the 1st instant, with copy of a letter from the Treasury, on the subject of the remuneration for my services in conducting the works of the proposed New Houses of Parliament. As the amount therein proposed falls far short of the accustomed remuneration to architects, both for public as well as private works, and as in my opinion it is very inadequate to the skill, labour, and great responsibility that will attend the execution of the work in question, I beg to be favoured with the particulars of the principle upon which the proposed sum has been recommended, in order that I may offer to the Board a few observations upon the subject.

I am, &c.

H. H. Seward, Esq. (signed) *Charles Barry.*

Sir, Office of Woods, &c., 4 April 1839.

WITH reference to your letter of the 27th ultimo, I am directed to inform you that this Board must decline furnishing the particulars of the principle upon which the sum proposed for the remuneration of your services in conducting the works of the New Houses of Parliament has been recommended.

I am, &c.

Charles Barry, Esq. (signed) *Henry Hake Seward.*

Sir, Foley Place, 22 April 1839.

As the Board has not deemed it right to make me acquainted with the principle upon which the amount of remuneration for my services in respect of the intended New Houses of Parliament has been determined, I cannot, of course, form any opinion, and will not question the correctness of the data upon which it is founded. I make no doubt, however, that the proposed amount, although very far short of the customary remuneration which has hitherto been paid to architects for extensive public works, is considered by the Board to be liberal under all the circumstances of the case; and therefore, with this impression, I have no wish to do otherwise than bow to its decision. In so doing, however, I cannot in justice to myself and the profession to which I belong, refrain from expressing most decidedly my opinion that the amount is very inadequate to the great labour and responsibility that will devolve upon me in the superintendence, direction, and completion of the intended edifice; and I trust when this is made manifest, as I feel sure it will, upon the completion of any considerable portion of it, that there will not be any indisposition on the part of the Board (especially if the work should prove to be satisfactory to the public at large) to award to me the remainder of the remuneration which has hitherto been customary on similar occasions.

I am, &c.

H. H. Seward, Esq. (signed) *Charles Barry.*

Note.—With the foregoing Correspondence between the Commissioners of Woods and Mr. Barry, are given extracts of so much of the Correspondence with the Treasury as have been considered necessary to make the Return complete.

Office of Woods, &c.
14 May 1844.

LINCOLN,
A. MILNE,
CHARLES GORE,
Commissioners of Her Majesty's Woods, Forests, Land Revenues, Works, and Buildings.

HOUSES OF PARLIAMENT.

COPIES of the CORRESPONDENCE between the COMMISSIONERS of WOODS and FORESTS with *Charles Barry*, Esq. Architect, respecting the Sum or Allowance to be paid him for Superintending the Building of the HOUSES OF PARLIAMENT.

(*Mr. Hume.*)

Ordered, by The House of Commons, *to be Printed,*
16 *May* 1844.

288.

Under 1 *oz.*

WESTMINSTER NEW PALACE.

COPY of the Architect's Report as to the present State of the Works, with Estimates.

THE centre and curtain portions of the River Front are roofed in. The North Wing is up in readiness for the Roofs, part of which are already fixed, and the remainder are being put on. The South Wing is nearly up to the level of the Roofs, which are prepared, and in readiness for being fixed.

A considerable portion of the North Flank of the Building is now being roofed in, and the South Flank is up to the level of the Roof, which is being prepared, and will soon be ready for fixing. The remainder of the North and South Flanks, together with the Turrets and Pinnacles surmounting them, will be completed in the course of the present year.

The Victoria Tower is carried up to a height of 38 feet, and the Clock Tower is at a height of 36 feet above the ground.

The House of Lords is roofed in, and the Ceiling and other fittings of that chamber are in hand. The central Tower is carried up to a height of 28 feet above the ground. The House of Commons is about 30 feet above the ground, and will be roofed in during the present year.

The other portions of the Building are upon an average 30 feet above the level of the ground, some of which are in readiness for the Roofs (now nearly ready for fixing), while others are being roofed in.

The alterations directed to be made at the Victoria Tower and Gallery and the Queen's Robing-room have been carried into effect.

A contract has been entered into for the finishings of the entire Building, and those of the House of Lords, and the Rooms provided for the business of that House are in hand.

Some delay has taken place in the fixing of the Ironwork of the Roofs, owing to the unsettled state of the iron trade, and difficulties with workmen.

The Stone for the exterior of the Building is still continuing to be supplied in great abundance, and of most excellent quality.

3 January 1845. (signed) *Charles Barry.*

LINCOLN.

	£.	s.	d.
Sum stated by Mr. Barry in Evidence before the Select Committee of the House of Commons of last Session	1,016,924	12	9
Deduct for purchase of Premises and Miscellaneous Expenses	90,605	6	6
	926,319	6	3
Add for alterations at Victoria Tower, &c.	800	–	–
And for Residence of Clerk of the Crown	1,794	–	–
£.	928,913	6	3

ESTIMATE of the Total Cost of the Building according to the latest Plan approved £. 928,913 6 3

LINCOLN.

WESTMINSTER NEW PALACE.

COPY of the ARCHITECT'S REPORT as to the present State of the WORKS, with ESTIMATES.

(Presented by Her Majesty's Command.)

Ordered, by The House of Commons, *to be Printed,*
6 *March* 1845.